Memo from the Editor

When three hundred and fifty odd manufacturers of dairy equipment and supplies plus three great associations connected wth the dairy industry combine their resources for a week of conferences and exhibitions it is a reasonably good wager that an idea or two may be had for the looking.

There is reason for pride in the dairy industries week at Atlantic City. Not so much because of its size but because of what the size indicates. Behind all of the superb displays and the equally superb meetings one finds a willingness to learn. And that is what counts, for that is the essence of progress.

N.M.

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Domestic subscription ..... $2.00 per year
Foreign subscription ..... $3.00 per year

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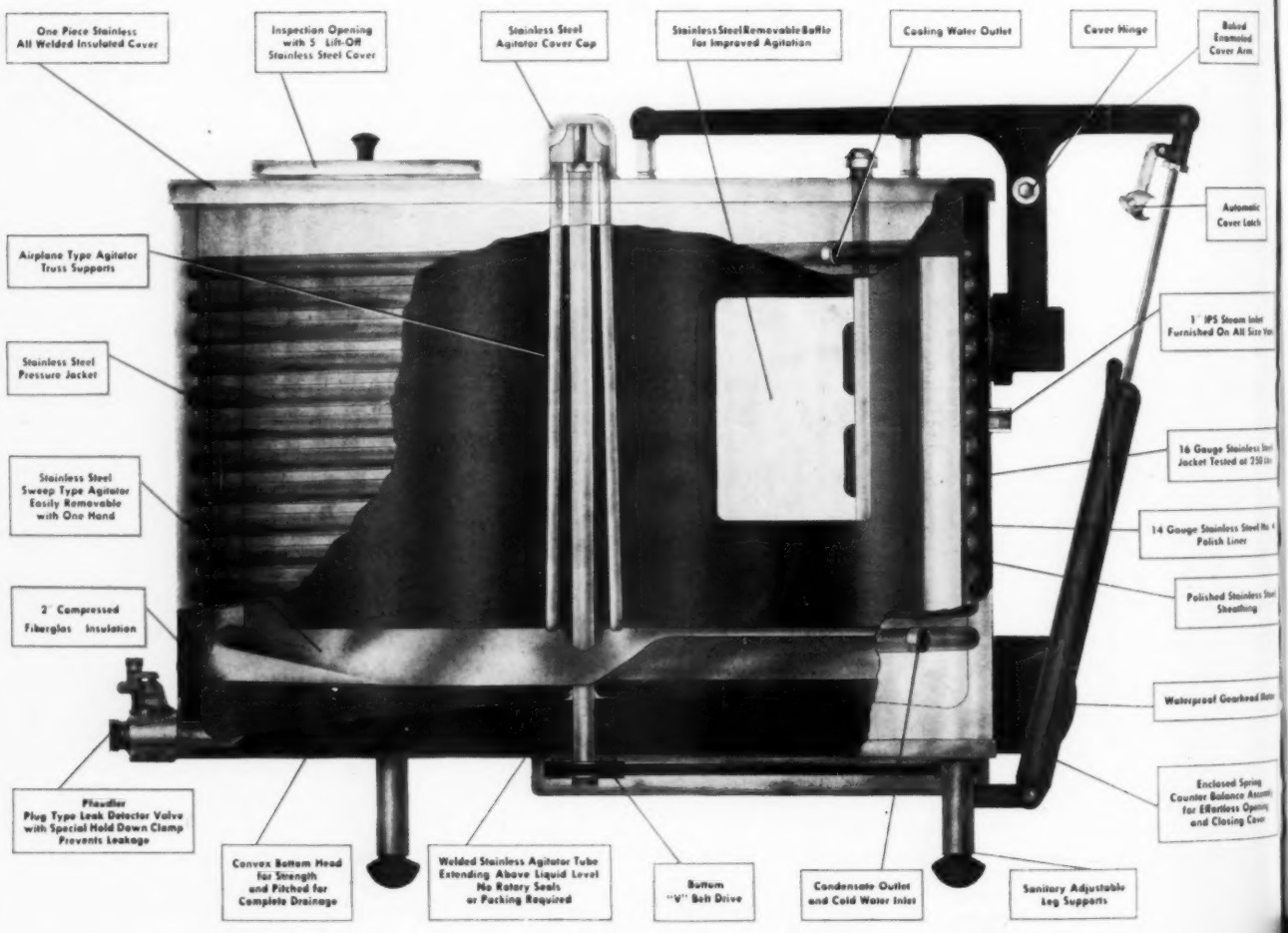
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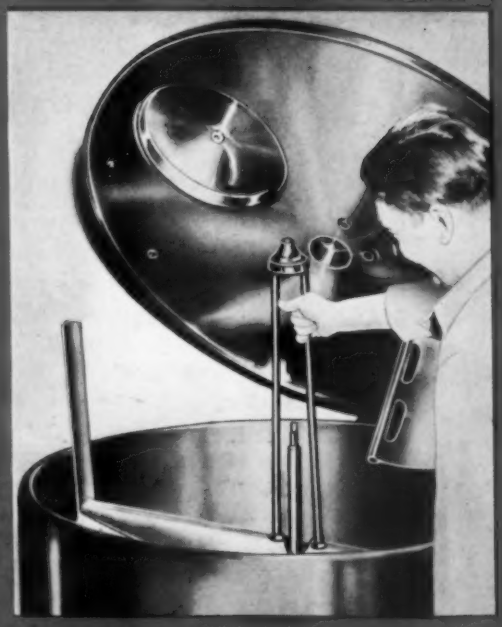

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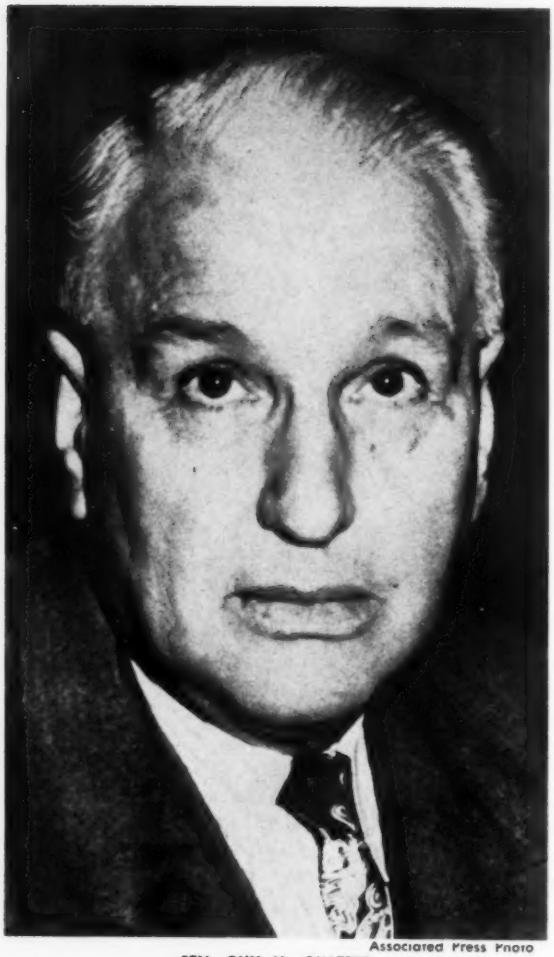

Associated Press Photo

SEN. GUY M. GILLETTE

The SENATE

WHAT THE United States Senate bites off it generally chews. Whether it be the ratification of a treaty or the confirmation of a third class postmaster the ninety-six gentlemen who constitute the Upper House in the Congress of the United States masticate with diligence not devoid of majesty.

On April 11, 1949, at the instigation of Senator Guy M. Gillette of Iowa, the Senate "considered, amended, and agree to" a resolution bearing the routine designation of Senate Resolution 36. Entailing the expenditure of $12,000, which to a body accustomed to the sonorous euphony of billions was a mere pittance, the resolution made its way into the realm of things authorized with a mildness that belied its sweeping potentialities. For this resolution proposed nothing less than, "a full and complete study and investigation of the production, means of production and plans for production of *all types* of agricultural crops with, particular reference to the fullest possible utilization of the Nation's food, feed, and fiber production, including studies of the construction, location, management, and use of industrial plants for the processing of various farm products. Also including studies in the field of the distribution of farm crops and the methods and costs of transferring the crops from the producer to the consumer."

Senator Gillette's purpose in introducing the resolution was to seek an answer to the problem of surplus agricultural commodities and to reduce, if possible, the spread between farm prices and consumer prices. The study was to be undertaken by "the Senate Committee on Agriculture or any duly authorized sub-committee thereof."

A sub-committee appointed by the Senate on Agriculture and Forestry has been carrying out the terms of the resolution. This sub-committee is composed of Senator Gillette, chairman, Scott W. Lucas of Illinois, Spessard L. Holland of Florida, George D. Aiken of Vermont, and Milton R. Young of North Dakota. Paul E. Hadlick is counsel for the sub-committee and does the day to day work necessary to carry the project along.

Research and Hearings

Information is gathered through research and through public hearings. During the course of the eighteen months that the sub-committee has been in business they have held many hearings and have accumulated a substantial amount of information. Although the sub-committee insists that it is not interested in the headlines, they are learning that food, particularly milk, is a hard thing to keep off the front page.

One of the first subjects to catch the sub-committee's eye was coffee. Another series of hearings dealt with meat, while still another group concerned bread. On September 22, 1949, the dairy industry came in for its share of the senatorial spotlight. On that day Mr. L. A. Van Bomel, President of the National Dairy Products Corporation, Mr. Theodore G. Montague, President of the Borden Company, and Mr. J. O. Eastlack, Assistant Vice-president of the Borden Company,

XUM

INVESTIGATES —

On April 11, 1949 the Senate of the United States embarked on a project that involved the study of the price spread "for all types" of agricultural crops. Dairy products are agricultural crops. This article tells the story of the Senate's venture into what Senator Gillette has described as "a complicated business".

were the first of a long list of dairy industry people who have appeared before the sub-committee.

The technique followed by the sub-committee has been to request leaders in the industry under study to appear at a hearing and give the sub-committee the benefit of their thoughts. Actually any person who wishes to testify may do so. Occasionally this open-minded policy tempts interested parties to project "stooges" into the hearings. The "stooges" are ostensibly housewives or other private citizens seeking an opportunity to present a grievance to somebody who will do something about it. When it is suggested that they will be put under oath and the source of their incomes questioned, it is not unusual for these people to take off for parts unknown and leave the sub-committee to get along as best it can without the stimulus of their testimony. The implication is obvious, somebody is paying them to appear.

The magnitude of the undertaking and the complicated nature of the industries being studied has not prevented the sub-committee from doing a fairly creditable job up to the present time. The sub-committee's approach has been one of seeking out information. Although there have been a few sharp exchanges, for the most part, the questions have been asked and answered with what appears to be an honest desire on the part of the sub-committee and the industries to work together.

The study of the dairy industry to date has dealt primarily with questions of price spread, health regulations, and federal marketing orders. The sub-committee, as Senator Gillette observed, has found the dairy industry to be "a complicated business."

Senator Gillette opened the hearings on June 8, 1950, with a brief statement that reiterated the philosophy upon which the studies are based. "May I again emphasize what I have stated and restated at the opening of many of these hearings," the Senator said. "We do not open these hearings in any particular area with any preconceived notion of the facts as a whole, and we are not bringing anybody before us as criminals or people who are assumed to have broken the law.

"We simply want the facts; want to know whether in that particular field the spread between what the producer gets and what the consumer pays is justified. If it is justified, our reports will say that in our opinion it is justified.

"If we find that exhorbitant or unreasonable charges anywhere along the line are being made that account for some of these very wide spreads, we want to know those facts and we will report on those facts, but anybody that comes before this committee as a witness does not come before us as a criminal charged with delinquencies."

Hearings Have Been Fair

The Senator has been as good as his word. The inquiry has been conducted on a reasonably high plain. The testimony by men in the industry

American Farm Bureau Photo

Hearings that involved the dairy industry sought to determine what trade barriers, if any, hampered the free movement of milk. Picture shows Paul Hadlich, counsel, Senator Gillette and Senator Young.

has been something that one can read with real pride. They have presented the case simply and honestly. There have been differences of opinion expressed by members of the industry, which is a healthy sign. Some dairymen have been reticent to appear before the sub-committee, and in some instances there has been a certain amount of confusion over the aims and purposes of the study. According to Paul Hadlick, the sub-committee's counsel, "The industry is a little contentious and bewildered." This is quite understandable when one considered the long series of bouts that various segments of the industry have had with the Department of Justice. As a general observation, however, it is a fair statement to say that the testimony has been well and fairly presented. The hearings have been conducted with a dignity that matches that dignity citizens have a right to expect from the senior branch of their legislative authority. Indeed the roughest treatment accorded to any group of witnesses was given to representatives of the Dairy Branch of the Production and Marketing Administration of the Department of Agriculture. After several hours of testimony that takes up twenty-three pages in the record Senator Gillette remarked, "Just a moment ago, or a few minutes ago, in answer to counsel's question as to suggestions for corrective measures, I believe that Mr. Forest replied, if my memory serves me correctly, that there is nothing definite in mind because there seemed to be a lack of public interest or understanding involved. (Refers to federal milk marketing orders.)

"May I suggest that the lack of understanding also extends to this subcommittee.

"And there is some evidence here that it extends to some extent to those who administer the law down in the Department, because evidence here, to be as kind as I can, has been somewhat diffused, and it fails to meet the point, and with some reluctance has been given, which is new to us."

Indeed the opinion is held in some quarters that certain changes in the Dairy Branch which have taken place recently are the result of the spanking administered to the Dairy Branch representatives by the Senator and the sub-committee.

The most remarkable fact about this study is the way in which the great, fundamental problems of the dairy industry emerge. Bear in mind that, theoretically at least, the committee embarked on the study with no preconceived opinions. Yet, as witness after witness testified, as the questions and answers accumulated the sub-committee has recognized certain phases of the industry as areas that may hold an answer to the question they are asking. The phases in which the sub-committee is showing an increasing interest are precisely the same phases that have loomed large in the thinking of responsible dairy leaders throughout the dairy industry. Marketing orders and market regulations, the middle-west in relation to the east, health regulations as trade barriers, the cost of production, and the influence of price on consumption, are the major kernels that have been winnowed from the testimony.

This is extremely important. It must not be forgotten for a moment that the organization that is sponsornig this study is the Senate of the United States. Nor must it be forgotten that the express purpose of the study is to determine what legislation or action is necessary to correct faults and to promote the free flow of goods. What the sub-committee deems a proper subject for legislative action will, in all probability, be referred to the Congress with recommendations for, what the sub-committee considers, appropriate legislation.

Health Regulations Studied

Health regulations, particularly where they have been used as economic weapons, are definitely high on the sub-committee's list of things that need to be corrected. On the basis of questions that have been asked of witnesses and on the further basis of conversations with the sub-committee's counsel it is apparent that the thinking is developing along the lines of some kind of national health standard. There has been no crystallization of ideas on the matter but the subcommittee is extremely interested in this particular problem. For example, at a hearing on December 2, 1949, the questioning turned on this business of health regulations. Sub-committee counsel Paul Hadlick was questioning Philip E. Nelson, the Director of the Dairy Branch of the Production and Marketing Administration.

Mr. Hadlick—Have you done anything with reference to the various discrepancies in State and city regulations relating the handling of milk?

Mr. Nelson—I think there is a contract which has been signed with the National Research Council — is that correct Herb?

Mr. Forest—That is right.

Mr. Nelson—There is presently a research study on that subject.

Mr. Hadlick—All you have to do is read these regulations and you know that there are discrepancies of tremendous import, obviously placed there under the guise of sanitary regulations, but for the purpose of preventing milk coming into the market. Am I correct in that?

Mr. Nelson—There is a very widespread discrepancy between various markets, that is true; some discrepancies are much more stringent than others.

Mr. Hadlick—What would be the difference between Rochester and Buffalo having one regulation requiring an open top pail and the other requiring a closed top?

Mr. Nelson—Of course they are exercising their local police powers, which we believe they have.

Mr. Hadlick—To prevent other milk from coming into the market. From a sanitary point of view which would be correct?

Mr. Nelson—Well I would say the closed one would be correct one.

Mr. Hadlick—But for obvious reasons they exercise their police powers under the guise of sanitary regulation to prevent other milk from coming into their market.

Mr. Nelson—I have heard on several occasions that statement has been made.

Mr. Hadlick—Are the present regulations in the District of Columbia such as to prevent milk from coming in here? Am I correct in that?

Mr. Nelson—All milk produced for the District must be approved by the Board of Health of the District government.

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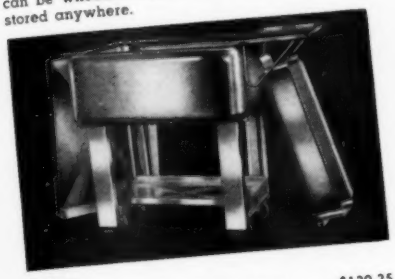

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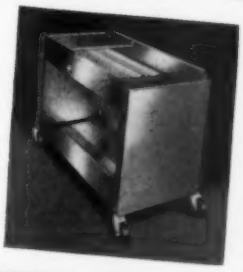

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When Dennis Curley fell through the ice of the Hudson River last year a chain of events was started that lead eventually to the picture on the left. David Collins was playing with Dennis at the time of the accident. He ran for help. Milkman Fay A. Maples, a routeman for Borden's Collar City Creamery answered the call and was able to pull young Dennis out of the water. The picture shows Routeman Maples receiving the Pasteur Medal. Dennis and David watch as State Safety Director Thomas W. Ryan makes the presentation.

Mr. Hadlick—Well, obviously, the local governments from a constitutional standpoint, I think in fairness to them, have the right to set up their sanitary regulations. But what I am wondering is what you people are doing to establish a code or set of rules that might either become—be recommended to these States, or which, if necessary, the Congress might consider as a national code, so that we have true sanitary regulations, and not merely trade barriers under the guise of such regulations.

Further on in the course of the hearing Mr. Hadlick remarked "The thing I cannot understand, gentlemen, is, of course Congress spelled it out in the Meat Inspection Act, and you are familiar with those things, the thing I cannot understand is why the Department has done nothing in this health standard thing which has become—I do not know how to describe it—a mess over the country, with such divergent, so-called sanitary standards, and that you have done nothing all these years to try to bring some uniformity into it."

Restrictions In Washington

Possibly one of the reasons for the sub-committee's interest in health regulations stemmed from conditions in the Washington, D. C., market. Like most markets, Washington has had a regulation requiring inspection which, for practical purposes, limited the geographical area from which milk could be shipped into the city. This practical limitation had been fortified by a legal definition of the area from which milk could be shipped into Washington. During the war this restriction was lifted in order to get an adequate supply of milk but within recent months proposals have been made to put the restriction into operation once more. In addition, a regulation requiring steam cleaning of utensils and equipment on farms shipping to Washington has been under heavy fire.

Senator Wiley gave substance to the position Mr. Hadlick's line of questioning revealed when, on June 29, 1950, he said "While our officials have been encouraging international trade in Europe and elsewhere, we find a completely opposite movement is under way here in our own country. This movement particularly affects dairy products and has special reference to bottled fluid milk.

"More and more, we note that individual States and municipalities are setting up restrictions against importation of so-called foreign milk by which is meant milk processed outside of the local milkshed. These barriers are set up for alleged health reasons, and yet it only takes a casual observer to note that the health reasons are merely being used as a cloak and subterfuge to cover up the desire of local producers to have a completely protected market."

Investigation of the influence of federal orders on the distribution and cost of milk have not yet resulted in an indication of any sentiment quite as definite as that expressed on the subject of health regulations. However, Production and Marketing officials have testified extensively. When asked the specific question what legislation is necessary to improve the marketing of milk under federal orders, PMA men declared that no new legislation was needed. Their feeling was that any improvement should come through a more efficient and astute administration of the existing laws.

Mr. Wallrich Testifies

In the course of the inquiry into federal orders the sub-committee inevitably ran up against the dissatisfaction that has been growing in the mid-west over the disparity between eastern and western prices and the effect that eastern prices plus closed markets have had on western milk. Matt Wallrich, Executive Secretary of the Dairy Cooperative Institute, Shawano, Wisconsin, presented the outstanding testimony on this problem.

Mr. Wallrich's main argument was that because of so-called monopoly conditions in eastern markets, artifically high production has resulted due to artificially high prices. The increase in production has not been absorbed by the fluid markets and consequently the surplus has gone into manufactured products. This has meant an increase in the competition in the manufactured market and has put the western producers at a disadvantage. Mr. Wallrich declared that the $200,000,000 expended by the Commodity Credit Corporation for

(Please turn to Page 104)

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Federal Control of Interstate Milk

An Opinion Handed Down In Federal Court Finds Interstate Commerce As a Measure of a Federal Order's Validity

By ALBERT W. GRAY

FEDERAL MILK MARKETING ORDER No. 75 promulgated by the Secretary of Agriculture fixing the price payable to milk producers in the Cleveland marketing area, was held to be enforceable against handlers by the Federal District Court in Ohio a few weeks ago.

The quantity of milk in that area shipped from out of state sources is approximately a half of one percent of the total milk marketed. The attack on this order was based on the contention of the handlers that inconsequential percentage of this milk in interstate commerce was so negligible in amount that the feature of interstate commerce did not give the Secretary of Agriculture authority to issue this order. On that ground the order was unconstitutional as an illegal interference with their business.

Sustaining the determination of the Judicial Officer acting on behalf of the Secretary of Agriculture the Federal Court held that the authority for the making of such orders was not determined by the comparative volume of milk from sources without and within the state but on whether the milk in intrastate commerce "substantially affects interstate commerce" in that area; that if it does so affect interstate commerce the marketing of milk in that area is subject to those orders and to the control of the Secretary of Agriculture.

"The test is not the comparison of amounts of intrastate and interstate milk," the court held, "but whether the amount of interstate milk sought to be regulated is substantial rather than inconsequential. One half of one percent may be a small figure when comparison is involved but the actual shipment of 2,303,910 pounds of milk represetned, is not."

This clause in the statute, "Burdens, detracts or affects interstate or foreign commerce," recently came before the United States Supreme Court for interpretation in an action by the United States against the Rock-Royal Coop, in which an order issued by the Secretary of Agriculture regulating the marketing of milk in the New York Metropolitan Area was sustained.

The finding here of the Secretary of Agriculture had been that, "Two thirds of the milk produced in the New York marketing area actually moves in interstate commerce and that the remaining one third produced within the state of New York was physically and inextricably intermingled" with interstate milk; that all was handled either in the current of interstate commerce or so as to affect, burden and obstruct such interstate commerce in milk and its products.

Albert Woodruff Gray is a retired lawyer with a flair for whittling the complexities of the law down to size. Of late he has trained his talents on the legal aspect of the milk business. In this article, which is his second to appear in the "American Milk Review," he moves into the field of milk in interstate commerce.

The federal statute authorizing the issuance of these milk marketing orders is in part, "The Secretary of Agriculture shall issue and from time to time amend orders applicable to processors, associations of producers and others engaged in the handling of (milk and milk products). Such orders shall regulate only such handling of such (milk and milk products) as is in the current of interstate or foreign commerce or which directly burdens, obstructs or affects interstate or foreign commerce in such commodity or product thereof."

Facts very similar to those involved in this recent decision in relation to the order affecting the Cleveland, Ohio, area as well as those involved in the Supreme Court decision sustaining the New York order occurred in an action brought in Kansas for the review of a similar order.

There the handlers also contended that the order was not within the authority of the Secretary of Agriculture to issue as only an inconsiderable amount of the milk involved was interstate; that of the milk handled by those objecting to this order only 1.8 percent of the graded milk and 3.7 percent of the ungraded milk came from outside the state. On these facts it was contended that the commerce in graded milk was too inconsequential to authorize federal interference; "That it is absurd and borders on the ridiculous to regulate the intrastate milk when only 1.8 percent of the total milk priced in the order moves in interstate commerce."

In its decision the court refused to consider comparative percentages. "Congress made no mention in the act of percentages which must exist nor can this court by judicial determination read any such provisions into it."

The authority on which have been decided this and similar actions involving the influence and affect of inter-

(Please turn to Page 86)

XUM

no spoilage!
no contamination!
no moisture!

from plant to destination . . . the quality of your product fully protected . . . with new VISQUEEN* film liners

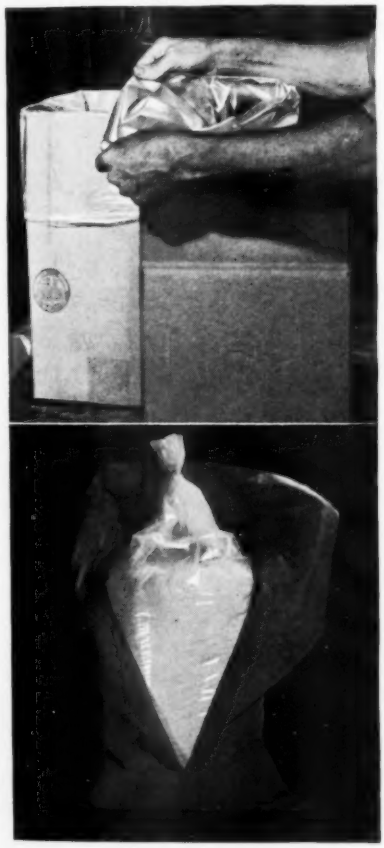
Bags, cartons, fiber drums—regardless of how you package and ship, a VISQUEEN film liner positively assures perfect delivery. It saves you time. It saves you money. It solves many heretofore "impossible" packaging problems of liquids, semi-liquids and hygroscopics.

VISQUEEN film is an unusual combination of physical and chemical properties. The film is tasteless, odorless and 100% pure. It is tough and strong with high tensile strength and great tear-resistant qualities. Extremes of temperature will not affect VISQUEEN film—94 degrees below zero left it strong and flexible.

VISQUEEN film is the answer to hygroscopic troubles. The liner locks out moisture, prevents lumping and caking. There is never any contamination, spoilage or leakage.

VISQUEEN film liner in Cartons

Liners available for any size of rectangular carton for shipping semi-liquids or solids.



SUCCESSFUL APPLICATIONS OF NEW SHIPPING METHOD IN DAIRY INDUSTRY

- Butter in Bulk
- Dried Buttermilk
- Condensed Buttermilk
- Whey Products
- Liquid Cheese
- Cottage Cheese in Bulk
- Frozen Cheeses
- Ice Cream Mixes
- Dry Powdered Skim Milk

VISQUEEN film liner in Fiber Drums

You can save $100 per car per shipment. Example: one California-to-Chicago shipper. On typical carload, tare weight savings totalled 5,400 lbs. In terms of hard cash he saved $105.84. Over a period of one year, the total annual saving was $50,000.

VISQUEEN film liner in Multi-walled Bags

Positive protection for hygroscopics. Excellent filling, storing and stacking qualities. Low cost.

*T. M. The Visking Corporation

VISQUEEN film . . . a product of

THE VISKING CORPORATION

PRESTON DIVISION, TERRE HAUTE, INDIANA

The Visking Corporation, Preston Division
P.O. Box 10A1410, Terre Haute, Indiana

We'd like to be shown how VISQUEEN film lined containers can save money for us.

Name.....

Company.....Title.....

Address.....

City.....Zone....State.....

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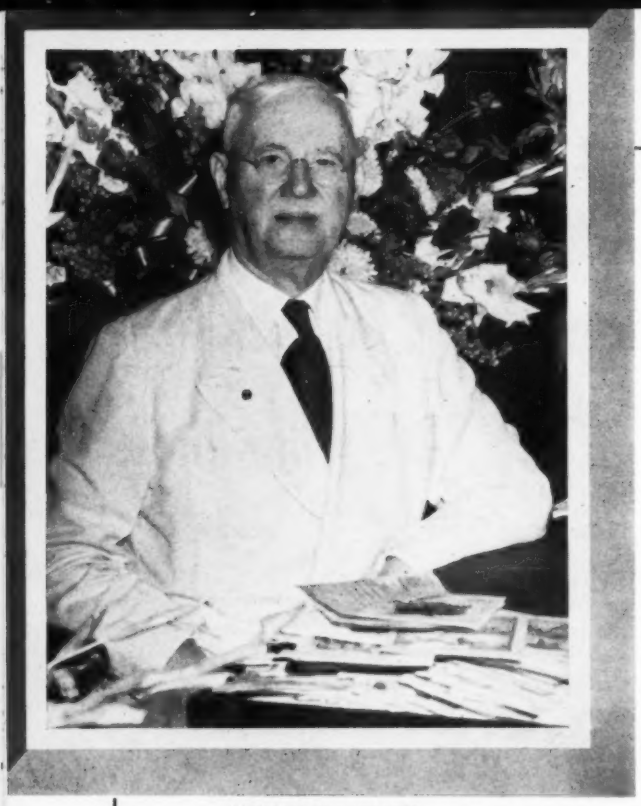

HOWARD HILL WANZER

Portrait of a Dairyman

WHEN "Cap" Anson and Billy Sunday were making baseball history with Chicago's fabulous White Sox, a youngster by the name of Howard Hill Wanzer was peddling milk along Monroe and Randolph streets. Seventy years later the same Howard Hill Wanzer is still in the milk business, still a baseball fan, still an integral part of the vast, intricate system that puts milk on a million door steps every day of the year.

The War Between the States was still fresh in people's minds when Mr. Wanzer embarked on his first venture as a dairyman. He was eleven years old and in the fourth grade. His father bought him an express wagon and two carrying cans with special measuring containers built into the covers. With this equipment Mr. Wanzer delivered milk to some of his father's customers each morning before going to school. Two years later he left school and started out on a route as his father's helper. A year later he held the reins himself, a milkman in his own right, responsible for a route. It was a plush district that he served in those days, the Gages and the Studebakers, the Goodriches and the Boardmans were among his customers.

Mr. Wanzer grew up with Chicago. He saw the old Chicago Exposition make way for the present Art Institute. He saw glass milk bottles replace the cans and measuring cups. He saw the discoveries of Louis Pasteur and the invention of Auguste Gaulin change the course of the dairy industry. He saw three wars wrench the world from its traditional base and hurl it into an era of strange new concepts and forces. And during the cataclysmic upheavals that were changing the face of society he kept his business alive and flourishing.

As the dairy industry reaches the mid-century mark Mr. Wanzer can look back and say "I saw it grow." He has given seventy years of continuous active service to his business and to the industry. At an age when most men have long since gone into retirement he still goes to his office every day. Perhaps that is one of the reasons why the firm of Sidney Wanzer and Sons, established 93 years ago, is still a name to remember in the milk business.

XUM

J. F. W. BIRKELBACH, PRESIDENT — C. P. BIRKELBACH, VICE PRESIDENT

POLAR ICE CREAM AND CREAMERY CO., INC.
DISTRIBUTORS OF
Baldwin Dairy Farms Milk and Eggs
PENSACOLA, FLORIDA

August 5th 1950

Mr. W. A. Seger, Sales Manager,
Buck Glass Company,
Baltimore, Md.

Dear Sir:-

You have asked for our opinion of your "MINI 1/2 Pint" bottles. We are happy to tell you that after using them for several months, we are very much pleased with their performance and with the economies their use provides.

They operate very well in all steps of our plant operation and their improved stability is especially conducive to increased speed on conveyors, in filling and capping, and this fast handling means savings for us. Their significantly lighter weight makes lighter loads on our trucks and easier carrying for our route men. (Eight lbs. lighter per 30 bottle case and Twenty pounds lighter per 80 bottle box, a weight savings with both empty and full cases.)

We serve a nearby Air Force Installation which formerly required paper bottles with 20,000 bottles per day. We pack these loose 80 to a standard 24 qt. carton size wooden box, total weight of box and 80 bottles of milk only 70 lbs. We load all of this milk on one two ton Chevrolet truck with 12 foot body. How is that for cutting delivery costs?

Their original low cost and adaptability to small, economical closures for further savings are very attractive to us.

In summary, the Buck "MINI 1/2 Pint" fits extremely well into the plans of a cost and production conscious dairyman, and I am pleased to recommend them.

Yours very truly,
POLAR ICE CREAM & CREAMERY CO.,
J. F. W. Birkelbach
President.

JFWZ:VB

Here are lots of good reasons for using the Buck "MINI HALF PINT" Glass Bottle

The experience of the Polar Ice Cream and Creamery Co. is typical of the outstanding performance Buck MINI Half Pint Bottles are giving "on the job." Send for a sample and full information about this bottle . . . see for yourself why dairy operators say it's the greatest advance in milk containers in years.

IMPROVED SHOULDER DESIGN

This shoulder provides a convenient, safe and sanitary grip . . . acts as a guide on capping machines . . . forms a stop on washing machine pockets.

THE BUCK GLASS COMPANY FORT AVE. AND LAWRENCE ST. • BALTIMORE 30, MD.

Originators of the Square Milk Bottle

XUM

SHAKEDOWN *in New Jersey*

Graft or the suspicion of graft is always an ugly thing. In Newark, New Jersey the suspicion has been created. A Grand Jury, now in session, is considering the evidence and the question of whether or not to hand down indictments. SHAKEDOWN IN NEW JERSEY is an account of what happened. It is not a pleasant tale.

Exclusive feature AMR

Schoharie County Co-operative Dairies, Inc., of Cobleskill, New York, is a fair sized producers organization. A substantial portion of the cop-op's milk is sold in Newark, New Jersey, and has been approved by the health department of the city. On May 26, 1950, that approval was withdrawn. Schoharie milk was not allowed in Newark. On May 29, 1950, Dr. Kenneth A. Shaul, President of Schoharie Co-operative Dairies, Inc., delivered a check for $7,500 to 60 Park Place, Newark. Three hours and five minutes later Schoharie Dairies Co-operative was back in the good graces of the Newark Health Department and Schoharie milk was once more allowed in the city.

Two other firms also discovered the efficacy of substantial sums of the long green stuff. Queensborough Farm Products of Canton, New York, removed from the approved list, was reinstated after a contribution of $10,000 had been made. Cooperdale Dairy Company of Skaneateles, New York, found that $7,500 had an extremely salubrious influence on their status. Indeed so healthful was the effect of this payment on the quality of their milk that shortly after the disbursement was made the milk from that lovely New York community was considered proper food for the citizens of Newark. Its distribution was authorized by the city's Department of Health.

In each case the pattern was the same. An adverse report by city Health Department inspectors on the conditions under which the milk of these three organizations was produced resulted in a suspension of their permits to provide milk for the city. Following the suspension of the permits the dairies were informed by grapevine telegraph that it might be a good idea to retain a particular lawyer. In each case a contact was made with a New York milk dealer by the name of Isadore Eisenstein of South Orange, New Jersey. The contact man apparently described the procedures necessary for reinstatement, the major one being the payment of stipulated sum to Edward T. Miller, a Newark lawyer, ostensibly as a fee for legal services. Once the payments had been made, Mr. Miller lost little time in creating sunshine where clouds had gathered but a short time before. In gratitude to Mr. Eisenstein for his professional advice in the matter, Mr. Miller turned over at least $16,075 to the New York broker.

At a later date, occasioned by the failure of Prosecutor Minard of Essex County to view the proceedings with anything but an extremely jaundiced eye, Miller expressed surprise at the attitude of authorities. Whatever money he received, Miller declared, was a lawyer's fee collected from clients. "If" said he, "there is anything illegal about collecting a fee from a client I'll eat my hat." As the Prosecutors investigation developed and as a Grand Jury convened this month to consider the case, citizens of Danbury, Connecticut, hat manufacturing capital of the world, were filled with joy. It looked as though the consumption of hats was likely to be on the increase.

The case has been under investigation since shortly after Dr. Shaul made the Schoharie payment of $7,500 on May 29. Dr. Shaul, very properly feeling that "I couldn't pay a bribe with the milk producer's money and not report it," advised New Jersey's Attorney General Parson of the matter. The Attorney General began preliminary investigations and turned the matter over to Prosecutor Minard, prosecutor for Essex County in which Newark is located. Minard has conducted a vigorous investigation that reached its climax in the Grand Jury last month.

Dr. Shaul's action in reporting the case and his subsequent willingness to testify were the major factors in breaking the affair wide open. From reports that have come out of the prosecutor's office other dairies, in addition to Queensborough and Coopersdale, have been victims of the shakedown. Reluctance to testify on the part of these other dairies has hampered the prosecutor in his work. This reluctance is based on a fear of retaliation which is not altogether unjustfied. When Dr. Shaul's testimony brought the situa-

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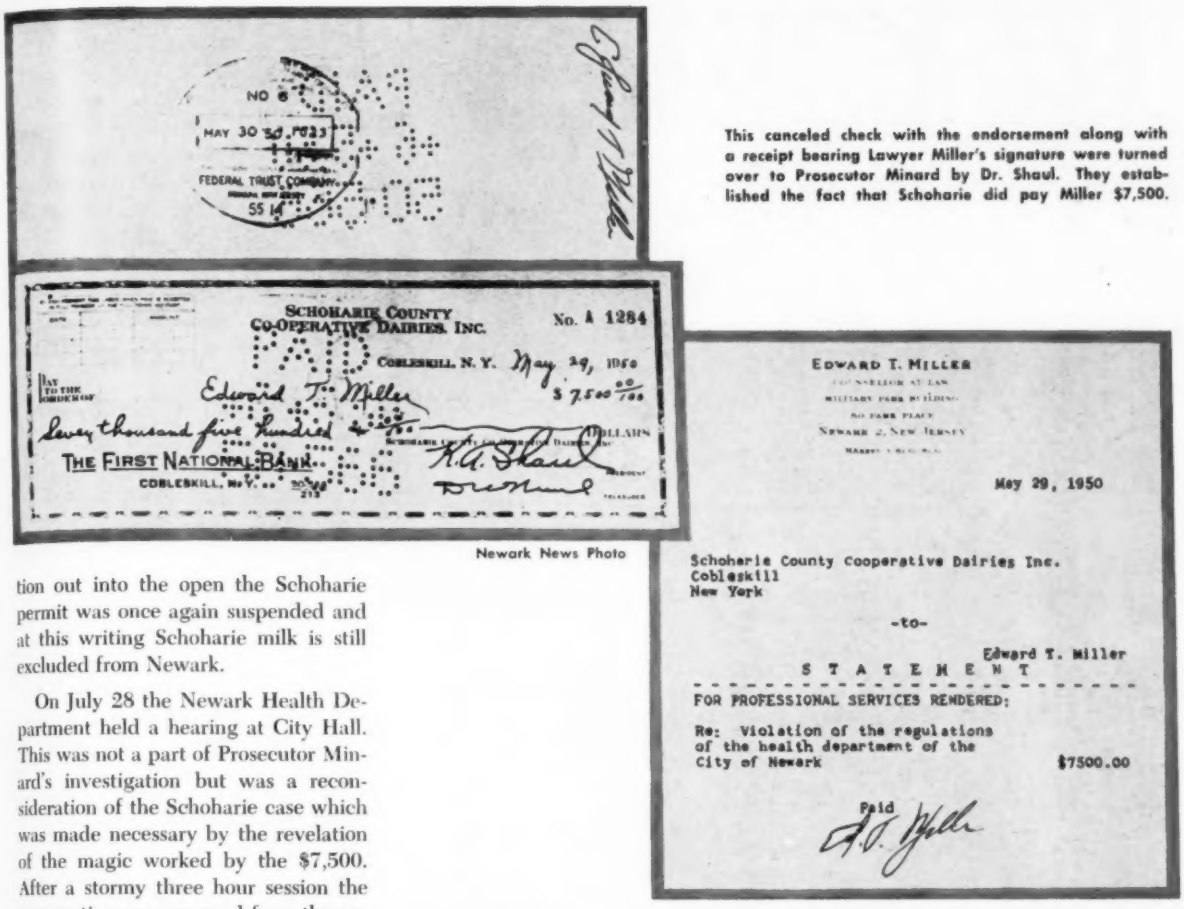


SCHOHARIE COUNTY CO-OPERATIVE DAIRIES, INC.
No. A 1284
COBLESKILL, N. Y. May 29, 1950
Edward T. Miller
$7500.00/100
Seven thousand five hundred & 00/100
THE FIRST NATIONAL BANK
COBLESKILL, N.Y.
PAID
K.G. Shaul

EDWARD T. MILLER
COUNSELLOR AT LAW
MILITARY PARK BUILDING
60 PARK PLACE
NEWARK 2, NEW JERSEY

May 29, 1950

Schoharie County Cooperative Dairies Inc.
Cobleskill
New York

-to-

Edward T. Miller

S T A T E M E N T

FOR PROFESSIONAL SERVICES RENDERED:

Re: Violation of the regulations of the health department of the City of Newark $7500.00

Paid
E.T. Miller

Newark News Photo

This canceled check with the endorsement along with a receipt bearing Lawyer Miller's signature were turned over to Prosecutor Minard by Dr. Shaul. They established the fact that Schoharie did pay Miller $7,500.

tion out into the open the Schoharie permit was once again suspended and at this writing Schoharie milk is still excluded from Newark.

On July 28 the Newark Health Department held a hearing at City Hall. This was not a part of Prosecutor Minard's investigation but was a reconsideration of the Schoharie case which was made necessary by the revelation of the magic worked by the $7,500. After a stormy three hour session the cooperative was removed from the approved list.

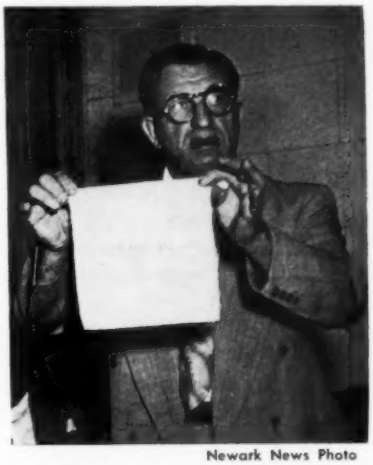
At this hearing Dr. Shaul repeated his account of what had happened. "We received a letter May 29 telling us that we had been taken off the approved list," Dr. Shaul said. "The letter was dated May 26, a Friday, but we didn't get it until May 29 because of curtailment of the mail deliveries."

"But on May 26 I got a telephone at the plant from Edward O. Mather, president of the Middletown Milk and Cream Co. (which sells the co-operatives milk in Newark). Mather told me that he had learned from some source about my being disapproved. He told me that a contact would be made by a contact man on what we would have to do.

"May 29 Mather called me, said that the contact had been made and added, 'You have to get down here with a check for $7,500. Bring it to my office'."

When Dr. Shaul got to Mr. Mather's office the latter made a phone call in the presence of Dr. Shaul.

"Mather told me" Dr. Shaul continued, "that I knew the man he was calling very well but that he couldn't tell me who he was. He told me to get over to Newark with the check as quickly as I could. I delivered the check to 60 Park Place about 6:10 P.M. May 29, the same day.



Newark News Photo

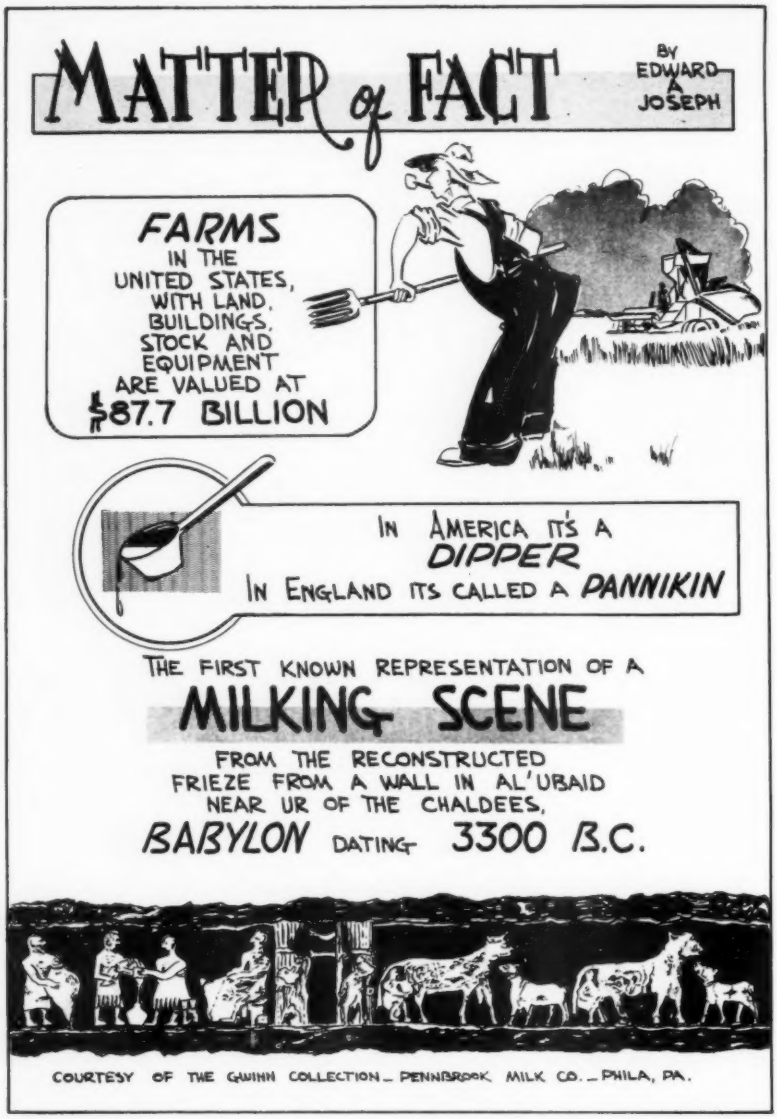
Charles Tatz, an inspector for the Newark Health Department holds up a filter at the Health Department hearing. On the basis of testimony at the hearing Schoharie's recently won reinstatement was revoked.

"At 9:15 that night Mrs. Shaul got a call from Inspector Richard Powell of the Newark Health Department, for me. An hour and a half later Mather called her, said that Powell had also called him and said it was all right to ship into Newark beginning the following day, May 30.

"The morning of May 30 Powell called me on the telephone at the plant and said that we had been put back on the approved list in Newark. I told him that I didn't know him and in view of the previous letter I had gotten from the Health Department I ought to have some word from somebody I knew who was connected with the Health Department. Powell said that he was connected with the Health Department and repeated that we had been reinstated.

"May 31 we got a letter from Health Officer Craster that we had been reinstated as of May 30, temporarily, subject to reinspection." I have since

XUM


MATTER of FACT
BY EDWARD & JOSEPH
FARMS IN THE UNITED STATES, WITH LAND, BUILDINGS, STOCK AND EQUIPMENT ARE VALUED AT $87.7 BILLION
IN AMERICA IT'S A DIPPER
IN ENGLAND ITS CALLED A PANNIKIN
THE FIRST KNOWN REPRESENTATION OF A
MILKING SCENE
FROM THE RECONSTRUCTED FRIEZE FROM A WALL IN AL'UBAID NEAR UR OF THE CHALDEES,
BABYLON DATING 3300 B.C.
COURTESY OF THE GWINN COLLECTION — PENNBROOK MILK CO. — PHILA, PA.

found out that the contact man was Isadore Eisenstein."

Dr. Shaul's version of what happened was substantiated the same day by a statement from the Prosecutor's office. The prosecutor revealed at the time that $7,000 of the $7,500 Schoharie money had been turned over to Eisenstein. He also revealed the cases of the Cooperdale Dairies and Queensborough Farms. In each case he said, the payments, totaling $25,000, had been paid to Miller. Miller then paid at least $16,075 over to Eisenstein. The disposition of the money after Eisenstein received it had not been uncovered at the time the prosecutor made his statement.

Both Miller and Eisenstein were questioned at length by Prosecutor Minard, Eisenstein's books were seized through cooperation of New York City authorities. Miller admitted the payments to Eisenstein but declared that they were for "services rendered." These services, he said, were advice and assistance that Eisenstein gave in preparing the brief that was submitted to the Health Department. In the Schoharie case, Miller did prepare and submit a three page brief. This brief, however, did not reach the hands of the Health Department until three days after the payment had been made and the suspension lifted.

The most amazing aspect of this sorry brew has been the attitude of the Newark Health Department. Repeatedly Newark's Public Affairs Director Moran has declared that the "quality and purity of milk is the major issue involved." On August 10, after the payments by the three dairies had been irrefutably established Director Moran, under whose jurisdiction the permits are issued, said, "I believe that the Prosecutor, the Newark Health Department, and the State Health Department should proceed at once to effectuate the establishment of a uniform inspection and enforcement procedure to insure an adequate supply of milk for the people."

"I am convinced that the lack of coordinated inspection and enforcement on a state-wide basis, coupled with the apparent large expenditures of the producers to avoid strict enforcement, may well have resulted in poor milk at higher prices to the consumer."

Moran then went on to say that his conferences with Prosecutor Minard had not supplied him "with any factual evidence of misconduct or involvement in that phase of the investigation insofar as the employees of my department are concerned."

Difficult to Reconcile

It is difficult to reconcile this attitude with the findings of the Essex County Prosecutor. It was estalished that three hours and five minutes after the payment of $7,500 by Schoharie Dairy Co-operative the suspension that prevented that organization's milk from being distributed in Newark, was lifted. To be sure the evidence had not yet pointed at a specific individual in the Newark Health Department. But the Health Department did the suspending and it did the reinstating. The suspending was done after a Health Department report had been made on some Schoharie producers. The reinstating was done three hours and five minutes after Schoharie had coughed up $7,500.

Prosecutor Minard did not agree with Mr. Moran. According to the prosecutor. "It is not a case of sanitation, it is a case of shakedown."

The original Schoharie suspension came at a time when the co-op was in the worst possible position. The flush season was in full swing. Dr. Shaul was faced with the problem of finding another daily outlet for 2,500 to 3,000

(Please Turn to Page 84)

XUM

ENJOY
Green Spot
ORANGEADE
Bottled and handled with the same care and sanitation as your milk by YOUR dairyman.
Delivered to your doorstep or favorite market in big, economical "family size" bottles...serves five.
Always welcome to the entire family.
Always GOOD and GOOD for you.
—for a midnight snack
—for entertaining
—at lunch time
—after school
ORDER TODAY
Not Carbonated
No Preservative
Mr. Milkman:
Please leave _____ family size bottles of GREEN SPOT Orangeade.
Name _____
Address _____

BIG FALL PROFITS

more than half of all dairies bottling GREEN SPOT have already proved that fall and winter distribution is highly profitable

Quality Orangeade Sells in any Season!

Let these attractive, free bottle hangers help you build big fall volume!

GREEN SPOT, INC. LOS ANGELES

DACRO P-38

...America's fastest growing milk cap!

Here's what Dacro P-38 can give you . . .

SINGLE CAPPING OPERATION!

No dairy plant operator has to be told how the simplicity of single capping affects bottling costs. It saves time . . . saves the cost of extra caps or cover devices . . . saves the cost of extra equipment needed to put them on the bottle. With Dacro P-38, capping is fast, simple and efficient . . . a combination you can't beat for saving money.

SMALL SIZE CAP— LOWER CAP COST!

The 38 mm. size bottle cap is the answer to higher costs of materials. Because Dacro P-38 is smaller, it takes less material to make and sells at a lower price. You save on cap costs and at the same time get the same satisfactory filling, capping and pouring as the larger sizes give.

HIGH CAPPING EFFICIENCY AT HIGH SPEED!

There's no need to nurse your filler along when you're using Dacro P-38. Open it up wide and let it run. Dacro will cap the bottles as fast as you can fill them . . . and with fewer stops and delays than with any other cover cap. We have stop watch studies that support this record and will be glad to show them to you.

YOUR CUSTOMERS WILL LIKE IT!

Dacro capped bottles make money for you even after they leave your dairy. We know, because we've seen how pleased housewives are with Dacro in cities and towns all over the country. They like it because it's so easy to remove . . . but best of all they like the way it re-seals the bottle. Dacro P-38 holds its shape. There's no crumpling or crushing. It can be snapped back on the bottle time after time.

First with single capping operation!

First with small 38 mm. cap!

If you're not using Dacro P-38, you're missing something that can do a lot to change your entire bottling picture . . . help put red ink operations into the black and make good operations better.

Write today, so that we can have a representative give you the complete Dacro P-38 story. There is no obligation, and you'll find it time well spent.

CROWN CORK & SEAL COMPANY

Dacro Division **BALTIMORE 3, MD.**

XUM

Dairy after dairy switching to Dacro!

Keep your eye on Dacro P-38 and you'll see something that rivals Jack's bean stalk when it comes to fast growing. Dacro P-38 is taking the country by storm. Dairy after dairy is switching to this distinctive cover cap because it alone has so much to offer in improving operation and saving money. It has what it takes to speed up production all along the line . . . to get out bottled milk at lower cost and greater profit . . . to please customers and keep them satisfied.

Going to the Dairy Show?
Plan to visit us at our home office in Baltimore. We'll consider it a privilege to talk with you there and to show you how Dacro P-38 Caps and Capping Mechanisms are made.

In Atlantic City
October 16 to 21 • Booth 1168

Thousands AT THE SHOW WILL AGREE...

L-P has the advanced Design!

SEE ALL OF THESE AND MORE COST-CUTTING, LABOR-SAVING L-P DEVELOPMENTS AT THE SHOW

- *Straightaway Can Washers*
- *Sanitary Stainless Steel Extension*
- *Rotary Can Washers*
- *Blenderizing Weigh Cans*
- *Automatic Vacuum Samplers*
- *Milk Level Control*
- *Complete Conveying Systems*
- *Mikro-San Acid Cleaner*
- *Can and Case Doors*
- *Dual System for 2 Grades of Milk*
- *Case Washers*

Be sure to see what's new with L-P in

BOOTH 1364

LOWER LEVEL–FOLLOW CENTER AISLE

—

DAIRY INDUSTRIES EXPOSITION
ATLANTIC CITY–OCTOBER 16-21

LATHROP-PAULSON COMPANY

2459 WEST 48TH ST., CHICAGO 32, ILL.
152 WEST 42ND ST., NEW YORK 18, N. Y.

EVERYTHING FOR THE CREAMERY AND MILK PLANT RECEIVING ROOM

DIRECT FACTORY SALES AND SERVICE FROM COAST TO COAST

XUM

Atlantic City with its beaches and its hotels, its Board Walk and its tremendous Convention Hall plays host to the dairy industry this month. Dairymen, in record breaking numbers, are expected to participate in the week of superb activities that begins October 16.

HURRY - HURRY - HURRY

Great Dairy Industries Exposition Holds October Spotlight —Show To Be Largest Ever Staged By Dairy Industry

STATE FAIR managements report a rough time in drumming up enthusiasm among dairy plant operators this year. Main reason appears to be that they are so busy getting ready for the Dairy Industries Exposition in Atlantic City October 16-21 they haven't much time for side lines.

With rearmament looming large on the horizon milk handlers are looking with deep anticipation at the approaching show. They are hoping to find the answers to many of their equipment problems at this huge exposition. Equipment manufacturers will come to Atlantic City armed with information as to what their delivery prospects will be. In addition to the new ideas, new thoughts, and new attitudes that dairymen will uncover at the exposition this question of delivery and availability will be of extreme value to milk processors everywhere.

A spokesman for the Dairy Industries Supply Association, sponsors of the record breaking show, put his finger on the crux of the matter. Said he, "When a manufacturer asks for priorities or supplies he needs to be able to tell defense officials just what use he plans to make of these materials. Advance information as to his customer's future needs helps in planning his own production schedules. As was the case in World War II, processors and equippers are working closely together in Washington and elsewhere to keep the dairy industries going at a high point of efficiency during this emergency."

A Whale of a Show

From the exhibit standpoint, this midcentury Dairy Industries Exposition will be the largest ever assembled by the industry and the largest industrial Show ever staged in Atlantic City's huge Convention Hall. Attendance is expected to break all records, not only from the United States and Canada, but from all over the world. Hotel reservations are pouring into the Atlantic City Housing Bureau from all segments of the dairy industry. Meetings of International Association of Ice Cream Manufacturers, Milk Industry Foundation, International Association of Milk and Food Sanitarians, Dairy Industries Society, International and a number of other industry groups will be held concurrently with the big show. Because of the crowded schedule of events for Dairy Industries Week, the Dairy Industries Society, International is planning its Fourth Annual Meeting for the Sunday evening which precedes the opening of the Show and the convening of MIF's opening session. Born at a World Wide Breakfast during the 1946 Exposition, half of DISI's milestones have coincided with Expositions, and it is expected that the largest attendance to date for the international group will be reached.

This meeting, scheduled for Sunday evening, October 15, will include a visit to the spectacular Skyway of the States at the top of the huge Convention Hall. Officials of all the principal other Associations involved in Dairy Industries Week have agreed to give the international visitors a briefing on the succeeding six days' events and a part of this is to be a panoramic preview, for the first time in the history of the Exposition, of the arena floor's exhibits from the Skyway.

DISI President J. Findlay Russell of Scotland, who is bringing with him members of the industry from Britain, will have charge of the business session at 7:30 p.m., aided by Irving C. Reynolds of Toledo, Ohio, Vice-President of the international group.

Wallace To M. C. Preview

DISA President K. L. Wallace of Toronto will be Master of Ceremonies for the Preview session at 8:00 p.m.

Setting the stage for the "exposition week" will be the 37th Annual Meeting of the International Association of Milk and Food Sanitarians. To be held in the Hotel Dennis in the days immediately following the show and conventions the sanitarians will meet from October 13 to October 16. Following their meetings many sanitarians will take advantage of the invitation extended by the Milk Industry Foundation to full time employees of health departments to attend the Foundation's convention.

and among those expected to take part are MIF President T. Kline Hamilton of Columbus, Ohio; IAICM President G. Stanley McKenzie of Los Angeles and Prof. G. M. Trout of Michigan State College, past president of American Dairy Science Association and chairman of its Committee for the Collegiate Students International Contest in Judging Dairy Products. The meeting, primarily designed to enable visitors from abroad to make the best possible use of their time in Atlantic City, is open, however, not only to DISI members but to all persons in the dairy industries.

Because the Contest Awards Dinner, sponsored jointly by DISA, MIF and ADSA, will be held this year on Monday evening, the Collegiate Students' International Contest in Judging Dairy Products itself is scheduled for earlier than usual on Monday morning, October 16. Sponsored jointly by DISA and ADSA, the Contest this year is expected to attract a record number of entrants. Probably thirty colleges and universities will enter teams. Three Graduate Fellowships in dairy industry research are being awarded by DISA and DISA will present silver cups to the teams winning in judging of milk, butter, cheese and the sweepstakes All Products. This year IAICM is initiating its own cup for ice cream judging. MIF, IAICM, American Butter Institute and National Cheese Institute will again present medals to individual contestants.

Opening ceremonies for the Exposition itself will be held from the Skyway of the States, at 10 o'clock Monday morning, when the doors will swing clear to the Show's seven acres – to the 350 displays representing practically every major American industry in its role of dairy industrial supplier, and presenting a host of specialized products and services which make possible the processing and distribution of milk and its products. The exhibits will pack every available square foot of the two main exposition floors of Convention Hall, while on the Skyway (reached by an elevator) at the North side of the building there will be the traditional and always hospitable Old Timers' Area, projection room and a display of antique dairy equipment and supplies.

Old Timers, many of them still carrying the mail in their respective organizations will be on hand to participate in the program arranged by the Dairy Industries Supply Association. A special booth will be set up for Old Timer meetings and reunions.

Special Days will be dedicated to the various principal branches of the dairy industries, with brief remarks from VIP's broadcast from the Skyway. The final schedule of these days will be announced in an Exposition Directory.

Extra-curricular Activities

Among the events planned by John H. Mulholland, Honorary President of DISA and head of the Old Timers, will be a special College Alumni meeting at 4:00 o'clock Tuesday afternoon in the Old Timers' Area. Dividing among them the country's colleges which offer regular four year courses in dairy manufacturing, a special committee is rallying alumni Old Timers and New Timers from these schools. Prof. C. F. Iverson of Iowa State College is chairman and serving with him are Prof. G. M. Trout, Michigan State College, Prof. E. O. Anderson, University of Connecticut; Dr. E. L. Jack, University of California; Prof. F. H. Herzer, Mississippi State College. At this meeting it is expected that the year's Contest teams will also be enrolled as Show New Timers and will take their places along with Contest alumni in the Area's rostered ranks. Old Timer membership is open to anyone who has been with any part of the dairy industries for 25 years or more, and all such individuals are invited by DISA to register in the Area and receive special badges. Any one who attends the Show for a first time likewise may qualify for First Timer distinction. Wednesday afternoon will be a time of honor for the oldest Old Timers (there are 24 listed for 65 years or more with the industry and 37 for 60 to 65 years of service!). Thursday will be New Timers day. The Old Timers' Area social hour is scheduled for four each afternoon.

Registration for the Exposition will start on Sunday when batteries of trained registration clerks under the direction of DISA staff members, will facilitate the entrance of qualified members of the industry to this Exposition the public never sees. Badges of MIF and IAICM issued to processors will be honored, as will DISI badges. Non-DISA equipment and supply men pay an entrance fee.

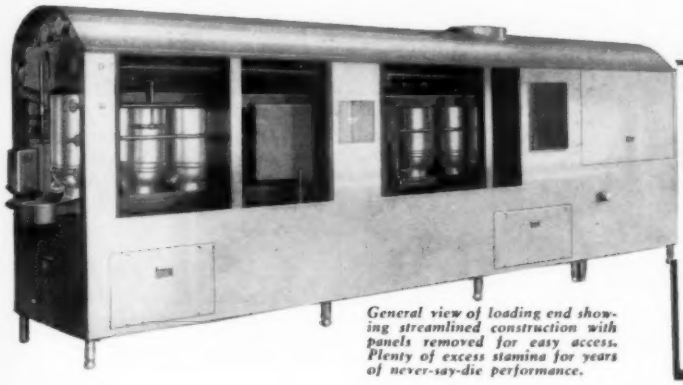
In order to give busy Convention members of MIF and IAICM extra time at the Exposition, DISA is holding the big Show open on Wednesday evening until ten o'clock. (The Exposition's daily opening hour is 10:00 a.m., with closing at 6:00 p.m. except on Wednesday and for a Sat-

(Please turn to Page 110)

XUM

ESTABLISHED 1873 • NEARLY EIGHTY YEARS OF HONEST EQUIPMENT

CATTARAUGUS
Nestled high in the beautiful uplands of Western New York is the community of contented, thrifty PURITY workers. Year after year, they thrive and prosper in this quiet village, building their own sturdy character into every piece of equipment they produce.



General view of loading end showing streamlined construction with panels removed for easy access. Plenty of excess stamina for years of never-say-die performance.

Purity De luxe

SUPERDUTY STRAIGHTAWAY

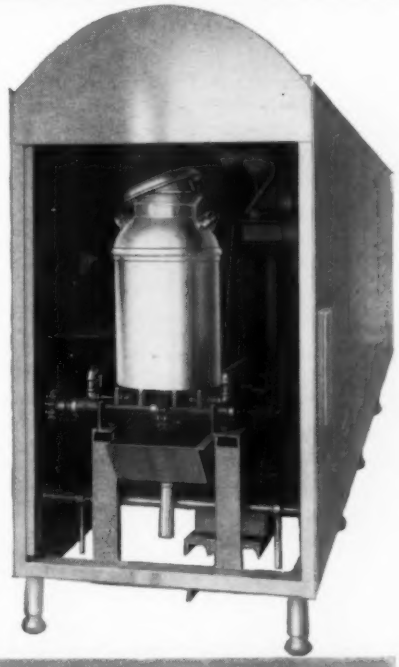
CANS that still taste, and smell, sweet **the next day**—that's some accomplishment. But it's one of the outstanding features of the PURITY Superduty Deluxe.

First, there's the tremendous washing action—the entire power of a 5 H.P. motor concentrated on the solution. The rinses, blower and machine action are handled through separate motors. PURITY washed cans are free from milkstone.

Then there's the PURITY patented Closed-Mouth sterilizing process. An actual live-steam pressure that cooks out the broken seams, rust holes and other bug-hiding places — cans instantly dried with a puff of clean air.

All temperatures automatically maintained. Each can pauses automatically just the right length of time over each jet, and an exceedingly thorough processing action results.

Built in two sizes — 7 to 10 and 11 to 14 — cans per minute, with variable speed attachment by which capacity may be readily varied. Streamlined, with removable panels for servicing and cleaning. Greatest and most perfectly balanced washer we have ever built. **Write for complete bulletin.**



Delivery end of the PURITY. A new and noiseless can-reversing mechanism with automatic safety features. Cans are delivered thirty inches from the floor.

PURITY MANUFACTURING COMPANY
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5

PURITY

MILK HANDLING MACHINERY AND EQUIPMENT

Meet Us at Dairy Industries Exposition, Booth Number 531

Cheese, ice cream, milk, and butter will be set out on the long tables at Atlantic City. Fast competition will be offered by teams from coast to coast that will taste it out for the championship.

Three Fellowships Offered In Annual Intercollegiate Contest

Keen Competition Anticipated In Thirty-fourth Annual Dairy Products Judging Event—Entry Record May Be Set

IN SOME thirty odd colleges and universities from Maine to California dairy majors are tuning up their taste buds. Coaches are scouring the country-side scaring up variations in dairy products calculated to try the skill of their charges. It is all part of the hustle and bustle that attends the annual intercollegiate contest in judging dairy products.

Officially known as Annual Collegiate Students International Contest in Judging Dairy Products, this year's affair will be number 34 on the record book. The contest is under the joint sponsorship of American Dairy Science Association and the Dairy Industries Supply Association.

How the teams shape up for the big contest is a difficult question. Rules of the contest make it impossible for a contestant to take part in more than one contest. The teams are, therefore, composed of entirely new men each year. There are no veterans around which a coach can build a team.

On the basis of past performances, however, Mississippi State College, University of Connecticut, Ohio State University, Iowa State College, and Michigan State College will be teams to watch. Like all pre-game dope this prognostication is subject to upset without notice when the boys gather around the sample tables. However, Mississippi State, last year's winner, has been a consistent performer and under the excellent coaching of Professor F. H. Herzer, Connecticut, always a strong competitor, will have a warm up session at the Eastern States Exposition. This preliminary contest, held late in September, is one of the few opportunities there are to get a line on some of the eastern teams. However, as we go to press that contest is still in the future. Cornell, Massachusetts, Ohio State, Vermont, and New Hampshire are usually represented along with Connecticut at the Eastern States.

Iowa Will Be Strong

Iowa will undoubtedly put a formidable trio of tasters on the floor. Star operators are nothing new to the boys from the big corn country. Herb Ruggles, winner of top honors in All Products last year, was an Iowa boy, while Bob Wight, third place winner in milk, also hailed from Iowa.

Minnesota, winner of the butter judging last year, can be counted on to be a hard team to beat. Both Kansas and Missouri have made creditable showings in the past and are not to be counted out until the last card has been toted up.

As a shot in the dark, and strictly in the dark, this observer picks them in the following order as teams in the All Products class: Iowa State, Ohio State, and Connecticut. The limb is pretty thin and the saw is sharp, but let's wait and see.

Contest rules will remain substantially the same, biggest change being the development of new score card. Change in the score cards is the result of a study of score cards during the last three years. The study was made by the American Dairy Science Association. Although the results have not yet been published reports are that some of the current changes in the scoring rules affecting the determination of milk sediment are based on these studies.

Four classes of products will be judged, ice cream, milk, butter, and cheese. Individual winners in each group will receive gold, silver, and bronze medals for the first three places. Team winners will receive silver cups. Medals will be awarded to

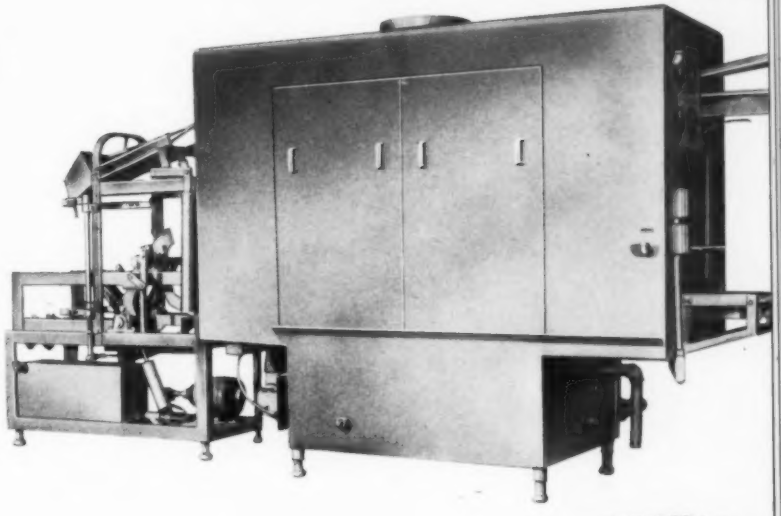
(Please turn to Page 101)

you'll like what you see and see what you like

DAIRY INDUSTRIES EXPOSITIO
ATLANTIC CITY OCTOBER 16-

At The

R.G. WRIGHT *Booth 1227*



THE ONLY MODERN STRAIGHTAWAY CAN WASHER

The Wright "Shorty" makes available for the first time to medium size milk plants those features essential for really clean cans. Included are all the treatments generally advocated by recognized health authorities. Equally important are the advantages of the Wrightdraulic Drive and Can Inverter which is a simple mechanism, safer, practically self-lubricating, variable in speed and as modern as the newest automatic automobile transmission. For a washer to discharge 4 to 5 cans per minute see this new Wrightdraulic Drive "Shorty".

SEE THESE ADDITIONAL QUALITY WRIGHT MACHINES AT THE BOOTH SHOWING THE ONLY HYDRAULIC DRIVEN STRAIGHTAWAY.

SINGLEMOLD WASHER

6 WIDE TRITON BOTTLE WASHER

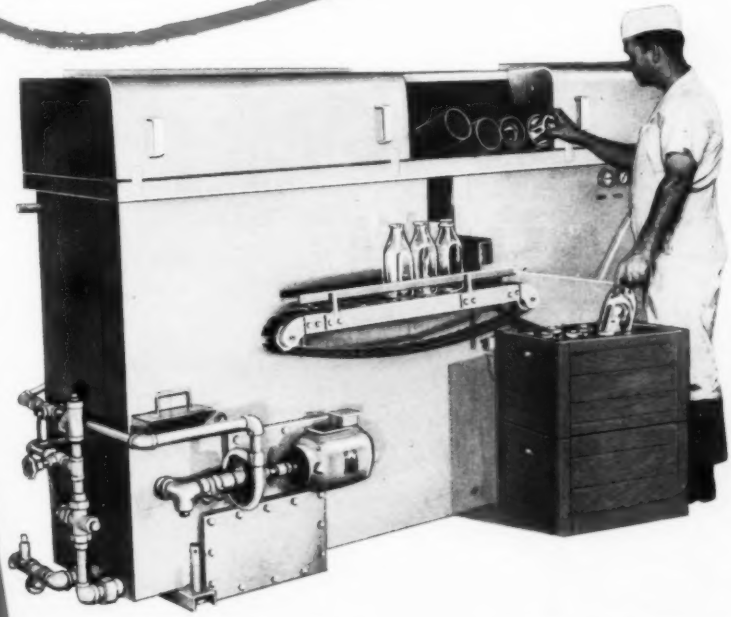
WELDED WEIGHING AND RECEIVING UNIT

MODEL EM 1000 LB. RECEIVING TANK

WRIGHT AIRGITATOR

200 GALLON PASTEURIZER

MODEL DM 500 LB. WEIGH CAN



THE REVOLUTIONARY NEW SOAKER BOTTLE WASHER

Here is a complete soaker wash with all the conventional soak bottle treatments, including aut matic discharge at 2/3 the price comparable machines.

If space is a problem, the Ro soak is the answer because it f where no other soaker will. As f its ability to wash bottles, see it action and you'll be convinced. E onomical on steam, water and c tergents, it turns out 20 sparkli bottles a minute.

R. G. WRIGHT COMPANY INC

MANUFACTURERS OF QUALITY DAIRY EQUIPMEN

XUM

Buildings & Budgets

By FRED DEGENHARDT

IN MILK coolor room construction insulation material must be carefully selected and properly installed if operating costs are to be kept down to a minimum. Loss of refrigeration through poor insulation and careless installation means longer periods of operation of refrigeration machinery and consequently higher costs per ton of refrigeration. Among the various materials commonly used in cooler rooms, vegetable cork will be discussed first in a series of articles on this subject. Other materials will be taken up in subsequent issues.

It is important to select a corkboard of pure, ground and compressed cork bound together by natural cork gum. Foreign materials in the board, such as wood or char must be avoided and the product must be uniformly baked; over or under baking produces other than a first class material. Sizes generally used are 12″ or 18″ wide, 36″ long and 2″ thick. Boards are to be straight and square with edges and corners unbroken if a good job is to be obtained.

Corkboard used in floors must be protected against water inasmuch as it absorbs moisture and as the moisture content increases the insulating properties decrease. To make sure the cork remains dry and efficient over a long period it is recommended that 3 ply waterproofing is installed under and over the cork with flashings turned up at all vertical surfaces and walls. In a previous column the recommendations for waterproofing were given. These can be applied to both the lower and upper layers recommended for cork protection.

After the floor has been waterproofed the first of two 2″ layers of cork is placed in a heavy coating of hot deoderized asphalt. The bottom of the board must be completely embedded in the asphalt to eliminate all air pockets. All edges of the board should be mopped with a coating of the asphalt before being set in place. The top surface is then flooded and mopped with a thick coating of hot asphalt and the second 2″ layer of cork set in it so that the joints of this layer do not line up with the first. It is very important that joints are staggered to avoid direct leaks through the insulation. The top surface of the second layer is then flooded and mopped with the hot asphalt and the final waterproofing is installed with flashings at the walls.

As a precaution, to prevent puncturing of the upper waterproofing, a ½″ protection coat of cement and sand is usually spread evenly over the entire area. A nail dropped and stepped on, a scaffold plank or scaffold horse carelessly handled while walls and ceiling work is going on can easily defeat the purpose of waterproofing and as water leaks into the cork slowly but surely operating costs start increasing. As shown in the accompaning sketch, the first course of each of two 2″ lavers of wall cork must be installed in conjunction with the floor cork to stagger periphery joints. Prior to the installation of wall cork a coat of waterproofed cement plaster is applied to the masonary wall and wood floated to a relatively smooth surface. The maximum thickness, over irregularities of the masonry, should be ¼″.

Fred Degenhardt is an architect with long experience in the dairy industry. He has been a member of the Engineering Division of the Borden's Farm Products Division of the Borden Company. For a number of years he was Architect, Chief Engineer's Assistant, and Supervisor of Layout, Maintenance and Repairs with Sheffield Farms. He is presently a member of the firm of Degenhardt and Miller, architects and engineers with offices at 31 Union Square West, New York City.

Mr. Degenhardt's column appears exclusively in the "American Milk Review." Readers are invited to send their questions concerning architectural matters to Mr. Degenhardt.

XUM

"It's a date . . . meet me at Girton's on Stage 3 . . . Atlantic City! That's right, October 16th thru 21st."

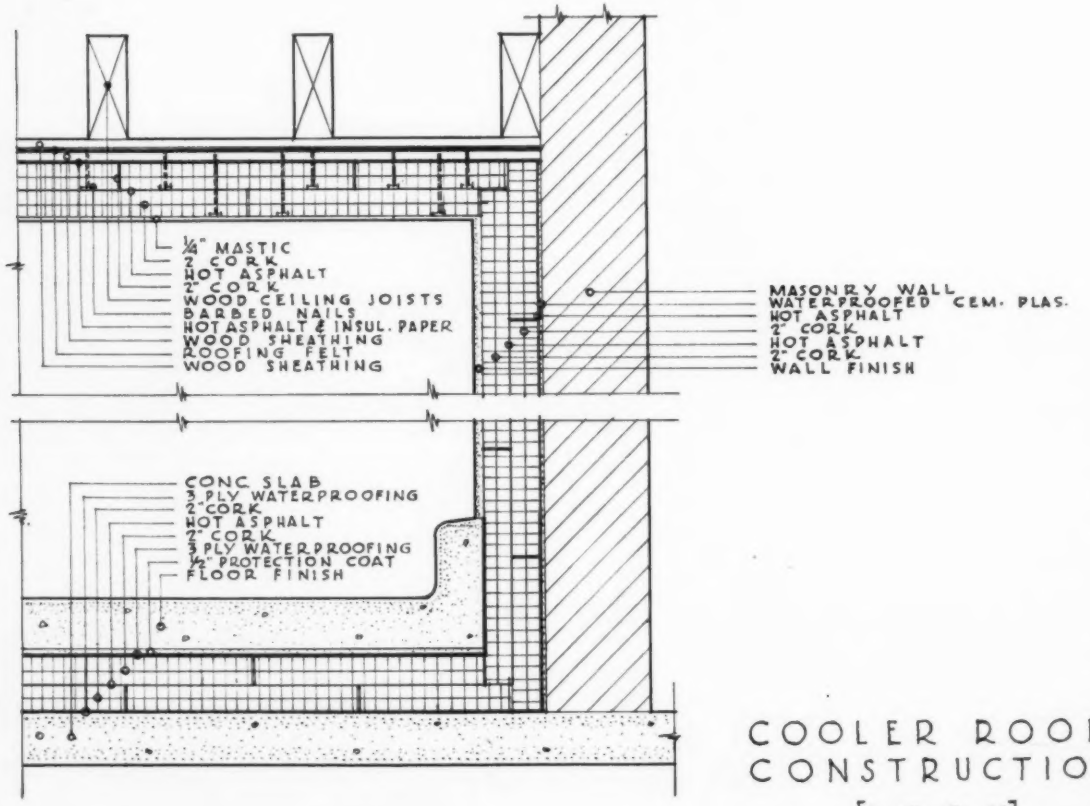
XUM

When dry the cement plaster is to be given two coats of asphalt primer. The first layer of 2″ board is then applied in a bed of hot asphalt with all joints tight and well fitted. The second layer is applied to the first with hot asphalt and with joints staggered. Wood skewers of thoroughly dried maple, 5/16″ x 5″, impregnated with creosote are driven in at approximately 60 degrees to secure the second layer to the first. Various finishes, such as mastic, cement plaster or 4″ self-supporting facing tile may be applied to protect the surface of the cork. If facing tile is the selected material the cork surface is mopped with a coating of the hot asphalt before erecting the tile.

To reduce the volume of the room, and thereby reduce the tonnage of refrigeration required, ceilings of cooler rooms are generally between 8 and 9 feet high. This usually requires a separate ceiling construction lower than the general ceiling level of the building in which the room is to be built. Quite frequently this construction is made up of wood ceiling joists designed to carry the load to be applied. Two layers of treated sheathing are nailed to the bottom of the joists with the joints of the bottom layer run perpendicular to those of the first. One layer of roofing felt, 15 pounds per 100 square feet, is tacked in place to the bottom of the first layer of sheathing before the second layer is nailed up. Two layers of waterproof insulation paper, 36 pounds per 1,000 square feet, are tacked to the bottom of the second layer of sheathing. To this the first course of cork is applied, again in a bed of hot asphalt and securely nailed to the sheathing with 6 galvanized nails per sheet of cork. Nails used for this are barbed, have large heads and are long enough to penetrate the cork into, but not through, the bottom layer of sheathing.

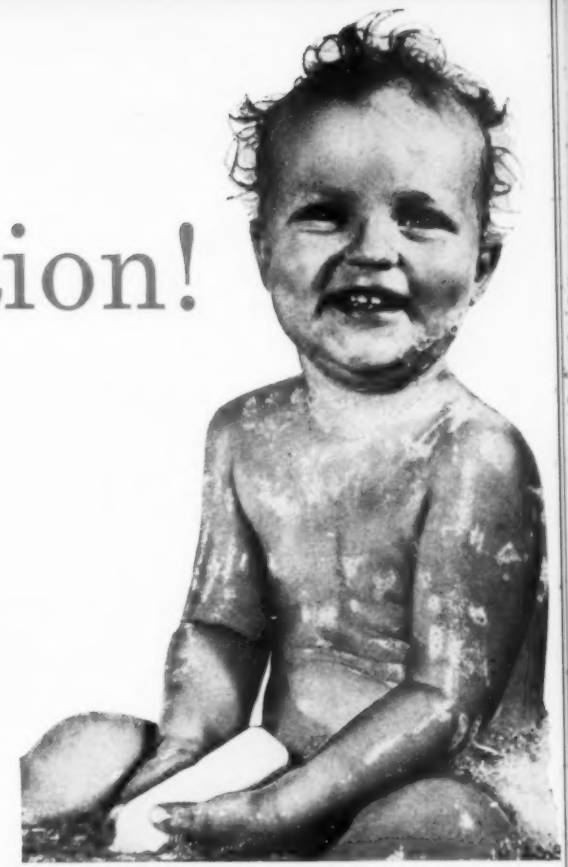
The final layer of cork is set against the first in a coating of asphalt and wood skewers, as used in walls, are driven in, 6 to a sheet. In the ceiling, joints are staggered as in the floor and walls. Long, galvanized nails, barbed, are driven through both layers of cork and into the lower layer of the sheathing. Finish the ceiling with 3 coasts of mastic, trowelling the final coat 3 times to obtain a smooth ceiling free of trowel marks. The final thickness of the mastic should be ¼″ when dry.

To complete the job all access and conveyor openings should be protected with insulated doors. Stock doors of various sizes and complete with galvanized hardware, door closers, frames and sealing gaskets are available from several manufacturers. Rough bucks must be installed in and anchored to the walls to receive the doors. Details of buck arrangement and sizes are obtainable in the catalogs of door manufacturers. Immediately after door erection the doors and frames should be given a coat of linseed oil for protection during completion of construction and until they receive final painting or varnishing.



COOLER ROOM CONSTRUCTION [CORK]

positive washing action!



...the right equipment for you is designed for your specific requirements!

In both large and small milk plants all over the country

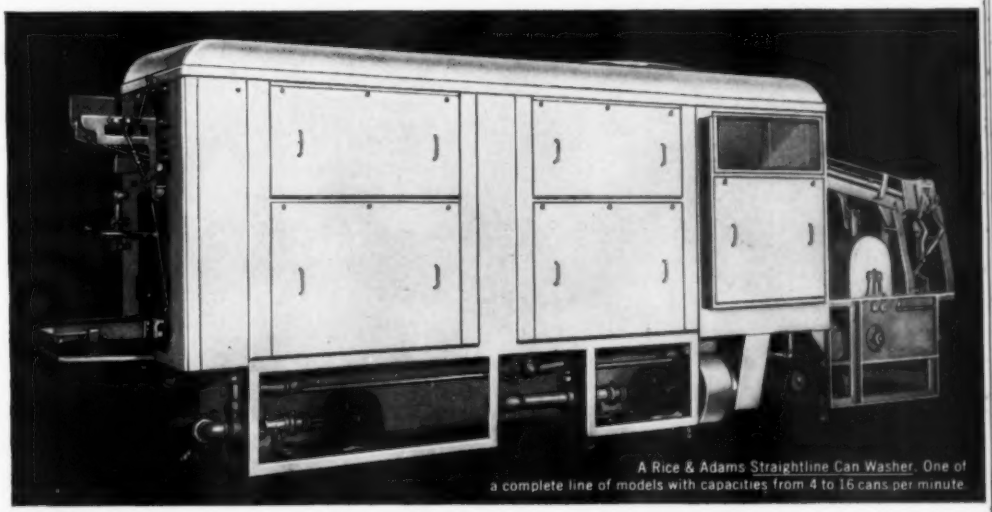
RICE & ADAMS

washing equipment is paying off in lower costs, longer life, greater efficiency!

That's because Rice & Adams equipment is better built, better engineered—is backed by 50 years of specialized experience.

One of the many advantages to be found in Rice & Adams equipment is the exclusive RISING JET. Here's powerful, *positive* scrubbing action that directly strikes all inside parts of the can. It's *improved, tested* and *proven*

but only *one* of the many reasons why you should install Rice & Adams equipment in your plant. Another reason is the exclusive CONE NOZZLE. *Direct*, jet pressure action washes the outside of the can and provides *thorough* cleaning action for the inside and outside of the cover. There is *no dependence upon backwash* for cleaning any part of the can or cover, inside or outside.



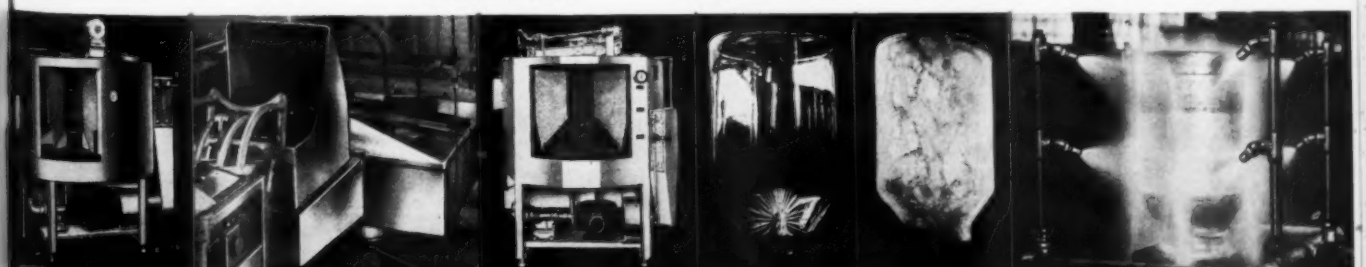
A Rice & Adams Straightline Can Washer. One of a complete line of models with capacities from 4 to 16 cans per minute.

1950 dairy industries exposition
atlantic city, october 16-21
booth 1645
Sold through independent dairy equipment jobbers.

RICE & ADAMS

Buffalo 17, New York

Equipment Division • PRESSED STEEL CAR COMPANY, INC.



Rotary Can Washer. This R & A model's hourly capacity is 200 cans and covers.

One of a complete line of R & A stainless steel Weigh Cans and Elliptical Receiving Tanks.

The rotary type of R & A Octagon Can Washer that will handle 180 cans and covers per hour.

R & A RISING JETS, an exclusive feature, give powerful, positive scrubbing action.

Completely direct washing action being supplied by 49 jet openings at peak of

CONE NOZZLE washing action being applied directly to entire can, including breast, lip and around handles. Splashing is minimized by the opposing position of nozzles.

XUM

AUGUSTE GAULIN AND THE RESTRICTED ORIFICE

A Story of the Homogenizer

PARIS HAD SELDOM seen the like of it. Even M. Eiffel's lacy spire of steel on the Champs de Mars reaching nearly a thousand feet into the sky had a hard time competing with the array of mechanical wonders displayed at the great Universal Exposition of 1900.

Along the Champs Elysee the last scars of the disastrous war with Prussia had disappeared. On the left bank of the placid Seine bearded poets and erratic painters scribbled and daubed and toyed wth the new and the usual. At the exposition one could see the marvelous new internal combustion engine and the even more marvelous automobile. That intriguing new device, the telephone, was there with all its enormous portent. There was a feeling in the air of an intangible something that spoke of great things to come. Just off the main aisle in a booth that displayed dairy machinery there was a compact little machine that did something to milk, – made milk homogeneous they said, homogenized it. The device was the creation of a M'sieu Gaulin, a clever man, possibly a genius.

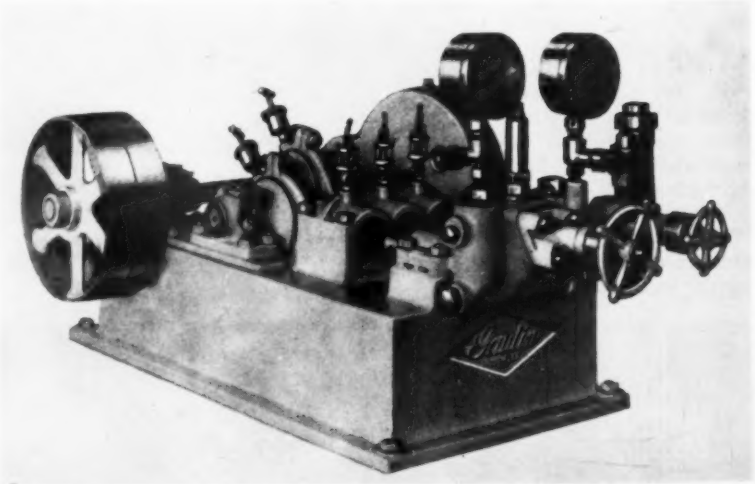
Auguste Gaulin, mechanic, inventor, business entrepreneur, and Chevalier de la Legion d'Honneur, owned and operated the Gaulin Dairy Machinery Equipment Plant in Paris. It was he who had seen the unsightly fat globules in the milk and turned thoughtfully to his drawing board and work bench for a solution. It was he who had conceived the notion of pumping whole milk under high pressure through a small hole, a restricted orifice, the engineers called it. The results had been superb. The large fat globules had been broken up and a smooth homogeneous emulsion had emerged. It was a product for the gods. It had taste, it had texture– ah m'sieu, it is the homogenized milk.

Gaulin first introduced this new process to the world at the Paris Exposition of 1900. Following the show the first homogenized milk was produced as a commercial product in Paris and elsewhere in France.

The machine was a good one. It worked, it did what M. Gaulin said it would do. But still people had to be shown. The value of homogenization had to be demonstrated. Well, voila, then we shall demonstrate. On December 2, 1900, four bottles of sterilized, homogenized milk were placed on board the Pacific Navigation Company ship, R.M.S. *Oropesa*, at the port of La Pallice. The vessel was sailing for Chile. The four bottles were filled on October 10 so that at the time they were placed on board the *Oropesa* the contents were almost two months old.

Experiment at the Equator

For two weeks the vessel steamed south. She passed through the steady moving air of the "trades" and into the enervating humidity of the doldrums. Then, one day when the sun blazed directly overhead and the navigator's chart showed the ship to be at the equator, the bottles were opened. There were four reputable witnesses to note the state of the milk in the containers. The master of the *Oropesa*, of course, and the ship's doctor were there. Two distinguished South American physicians, one from Brazil, the other from Chile, added color and authority to the test. It was an event, not without its humorous overtones. Were they serious these four men with their sharp fashionable beards and their sharper latin temperments? Did they grasp the tremend-



An early Gaulin homogenizer. Pistons in these machines of nearly a half century ago were made of bronze instead of the stainless steel that is used today. They did a job, just the same..

AMERICAN STORES COMPANY . . . BEATRICE FOODS COMPANY . . . CUDAHY PACKING COMPANY

DILBERT BROS. . . . FAIRMONT FOODS COMPANY . . . THE KROGER COMPANY

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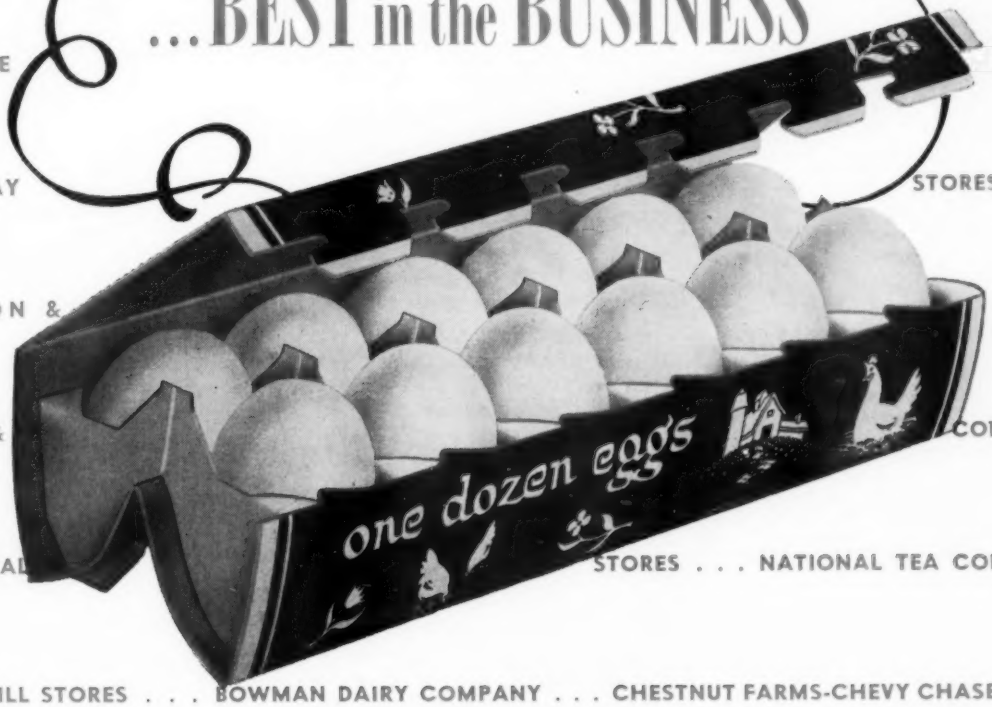
SELF-LOCKING EGG CUSHION CARTONS

Used by the

...BEST in the BUSINESS



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ous significance of what they were doing? Or did they see only the slightly incongruous picture of four sedate gentlemen, opening four bottles of milk in the vast blue emptiness of an equatorial sea? They opened the bottle and they made their report. Four bottles of pasteurized, homogenized milk opened on the high seas after more than two months had elapsed since the sealing, the contents found to be "in perfect condition both as to taste and quality."

In Paris Auguste Gaulin awaited the results of the test with understandable impatience. When they arrived he read them eagerly and added them to the growing pile of evidence attesting the value of his creation. There was the note from Count Berg, for example. Count Berg, that burly, ponderous Slav, Chamberlain of His Majesty, The Emperor of Russia, a power in the vast empire beyond the Odessa, what of him? His letter, dated at Sagnitz December 13, 1900, said simply, "The milk which you handed me in July, 1900, at the Universal Exposition in Paris is in perfect condition and I intend to open some bottles of it in the presence of a numerous assembly of scientific agriculturalists." Yes, they were learning, these people.

North American Introduction

Across the Atlantic in the United States word of the homogenizer spread among dairy circles. A machine was delivered to a concern in Philadelphia four years after the first demonstration in Paris. Shortly after that two more homogenizers were shipped, one to Seattle, Washington, and one to Eureka, California.

By 1909 the homogenizer had progressed to the point where its effectiveness in the processing of a number of types of dairy products was being studied. Scientists in the employ of the Canadian government were experimenting with it in an effort to increase the viscosity of cream.

John W. Davies, a Boston wholesale milk and cream merchant, heard about these experiments. They sounded interesting, sounded as though there might be something here that would be worth looking into. He made a special trip to Canada and returned to Boston pondering the possibilities of this remarkable process. He discussed the matter with his good friend Robert M. Burnett, prosperous owner of Deerfoot Farms in Southboro, just outside of Boston. Burnett was deeply impressed with what Davies had to report, so much so that he financed a trip to Europe for further study of the machine. Mr. Davies met Auguste Gaulin in France and through his good offices visited many milk plants where the homogenizer was in operation.

Before he returned to the United States Mr. Davies purchased one of Gaulin's machines for experimental purposes. When it arrived in Boston a series of experiments were started. One of the most noteworthy discoveries was the fact that surplus cream could be frozen. Then, after melting, it could be passed through the homogenizer wth gratifying results. By this process the frozen cream appeared to be as good in all respects as it was at the time it was frozen.

Another experiment demonstrated that by melting butter and emulsifying it with water it was possible to make cream. This experiment was so successful that the product was sold to ice cream manufacturers under the trade name of "Homo." They found that better and richer tasting ice cream could be made from this product than from fresh cream.

The machine had lived up to Mr. Davies' expectations. The experiments had substantiated what he had suspected. The time had come to act. Davies made arrangements with Gaulin to manufacture and sell Gaulin homogenizers in this country. In 1909 a Maine corporation, bearing the name Manton Gaulin, was formed.

Boon To Ice Cream

The ice cream industry was one of the first branches of the dairy industry to recognize and take advantage of the homogenizer. The first homogenizer built for processing ice cream was ordered by the Chapin-Sachs Corporation in Washington, D. C. Other ice cream men heard about the Chapin-Sachs machine. They came to see and marvel. Indeed the promise of this new machine was so great that the manufacturer had a difficult task to keep up with the orders.

The ice cream industry expanded rapidly under the impetus given it by

(Please turn to Page 107)

HERE WE GO AGAIN

That Ole Debbil "regulation" popped up, out in Oregon, to frustrate a move by Safeway Stores, Inc., to sell its own brand of milk on the Salem market.

Safeway Stores, Inc., suffered another defeat recently in its fight for the right to sell its own brand of milk on the Salem market.

Multnomah County Circuit Judge Charles W. Redding ruled against the grocery chain's petition for a reversal of the decision of Thomas L. Ohlsen, state milk marketing administrator, denying Safeway's application for permission to take milk produced for the Salem market, process it at the Lucerne Milk Company plant in Portland, and then return it for sale in Safeway's Salem stores.

Ohlsen turned down the Safeway request early this year after a hearing in which the plan was opposed by two Salem milk distributors, Curley's dairy and the Dairy Co-operative association.

Both Sides Charge Monopoly

Witnesses at the hearing said Safeway intended to offer Salem consumers the same 3.8 per cent butterfat milk in paper containers that Portlanders get. The objecting dairies were selling milk of 3.5 per cent butterfat and were charging an extra half-cent premium for paper containers, it was brought out at the hearing.

Charges of "monopoly" have come from principals on both sides of the case as it progressed through the hearing stage and through the circuit court review process.

Safeway spokesmen declared Ohlsen's decision was fostering a milk monopoly because it forced Salem milk producers to sell their milk only to certain Salem distributors. Ohlsen, on the other hand, ruled that granting a license to Safeway would tend toward monopolization and force other distributors out of business.

From *The Portland Oregonian.*

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INDUSTRY PROBLEMS

Dr. Robert F. Holland and Dr. James C. White, both of the Department of Dairy Industry at Cornell University, conduct their question and answer column each month in the "Review." Questions should be addressed to either Dr. White or Dr. Holland, Department of Dairy Industry, Stocking Hall, Cornell University, Ithaca, N. Y.

YOGHURT

QUESTION: We have received many requests for a sour-milk product called Yoghurt. Can you tell us how to make it and if starter can be obtained in this country?

R. G. H., New Jersey

ANSWER: Yoghurt (sometimes spelled yogurt or yoghourt) is a fermented or cultured milk product originally made in some of the Mediterranean countries. The product now made in the United States differs considerably from the original but is in good demand in some areas.

Contrasted with most common cultured buttermilks, yoghurt curd is firm and it is not agitated or broken up before consuming, but is eaten like a custard. Unlike kefir and kumiss it contains little or no alcohol and is highly acid. Concentrated whole milk is generally used in its manufacture.

Yoghurt culture or starter may be obtained from several commercial firms and among these are: The International Yogurt Company, Beverly Hills, California; Rosell Bacteriological Dairy Institute, La Traffe, Canada; The Dairy Laboratories, 2300 Locust Street, Philadelphia, Pennsylvania; and The Gaymont Laboratories, 4554 Broadway, Chicago 40, Illinois.

The starter is made up of at least 3 kinds of bacteria and requires special care in handling to maintain it in its original form. Mother cultures are generally propagated at temperatures between 85° and 90°F. At best, new starters should be obtained every 2-3 months.

In the preparation of bulk starter for product inoculation, 2 per cent of mother culture is added to the sterilized skim milk and incubated at 112°F. until coagulated. This usually takes about 3 hours. The bulk starter should then be held at 65° to 70°F. for 3 to 8 hours. If more than 8 hours elapse before use, the storage temperature should then be dropped to 60°F.

The steps in one method of preparing yoghurt are as follows:

1. Concentrate high quality whole milk in a vacuum pan to 2/3 its original volume, or add 5% by weight of dry skim milk to the whole milk. Homogenize at 2,500 pounds pressure and 130°-140°F.

2. Heat to 180°F. for 30 minutes. Cool to 115°F.

3. Add 2 per cent of active yoghurt bulk starter and mix thoroughly.

4. Fill wide-mouthed containers in which the product is to be marketed with the inoculated milk. Incubate at 112°-115°F. for 3 hours or until coagulated.

5. Refrigerate the coagulated milk for about 8 hours before marketing. The packaged yoghurt will keep well for several days if properly refrigerated at about 40°F.

A much more complete description of yoghurt making can be obtained by writing to the United States Department of Agriculture, Agricultural Research Administration, Bureau of Dairy Industry, Washington 5, D. C., and requesting the bulletin, *How to Make Yoghurt*, by L. A. Burkey. This pamphlet is very complete and covers the making and care of the mother culture as well as the making of the yoghurt.

COLD MILK SEPARATORS

QUESTION: AT certain times of the year we have a large amount of milk to separate, more than we can cool well when we separate at 120°F. We are wondering if we can purchase cold milk bowls to fit our present separators. We have heard that these bowls plug up with butter. Can this be prevented?

S. C., Tennessee

ANSWER: It is possible to purchase cold milk bowls for the most popular brands of separators which will accomplish your purpose, removing a large load from your cooling system without giving excessive fat losses in the skimmed milk.

Certain precautions must be observed in the operation of these bowls. Parts for standard bowls usually will not act as replacements in the cold milk type and care must be taken not to substitute, even though they appear to fit.

Also care must be taken to see that the operation is continuous. If, for any reason, the flow of milk into the bowl is stopped while the separator continues to run, the bowl will continue to concentrate the cream until an actual churning takes place at the temperature of operation (40-50°F.). This may form a solid plug of butter, requiring a shut-down, disassembly, and thorough cleaning before operation can be resumed. Sometimes the

(Please turn to Page 111)

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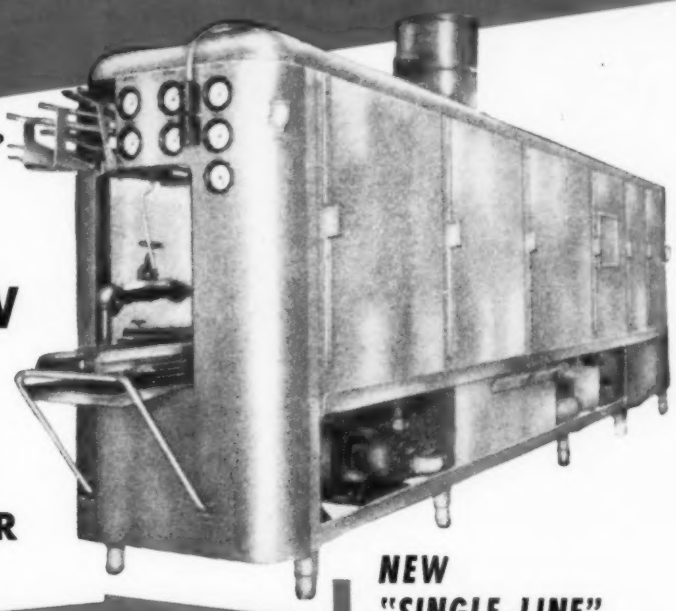

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(See next page)

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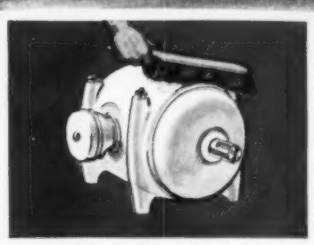

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Quarternary Ammonium Compounds

By P. R. ELLIKER

Oregon State College

THE PROS AND CONS of quaternary ammonium compounds for the dairy industry have been discussed so frequently that there is some confusion as to their proper role in dairy sanitation. Actually, an understanding of their more important properties suggests certain sanitation operations into which they fit quite well. In some procedures other types of sanitizing agents such as the hypochlorites may be considered preferable. This brief discussion will attempt to outline their more important properties and the sanitation operations where quaternaries have been successfully employed.

A relatively recent development is the combination of quaternary ammonium compounds with nonionic wetting agents and certain alkaline cleaning compounds to provide a combination cleaner or detergent and sanitizer. Such preparations then exhibit both cleaning and germicidal activity in a single operation and are known as cleaner sanitizers or detergent sanitizers.

Chemistry

Examples of some widely used quaternary compounds are: alkyl dimethyl benzyl ammonium chloride, diisobutyl phenoxy ethoxy ethyl dimethyl benzyl ammonium chloride, and methyl dodecyl benzyl trimethyl ammonium chloride. The first apparent fact relative to their chemical structure is that they are complex organic compounds. They derive their name from the quaternary ammonium grouping of the molecule. Since the quaternary compound has some surface active (wetting agent) ability and since the cation or positive ion is the active part of the molecule, they sometimes are termed cationic, surface, active agents.

Another property related to their chemical structure is the ability of quaternaries in a sanitizing solution to deposit as a germicidal or bacteriostatic film on the surface of equipment. This film apparently remains on the equipment until subsequently washed off. One advantage of quaternaries in this respect is that they are relatively noncorrosive, and the film left on idle equipment does not injure the equipment surface.

There are many quaternary preparations on the market under a variety of trade names. However, most are some form of the above three compounds. A number of new compounds now are under investigation, and it is likely that improved compounds from the standpoint of germicidal activity will be introduced onto the market in the future.

The complex nature of the quaternary molecule also accounts for its higher cost on a ppm use dilution basis than is true of the conventional hypochlorite sanitizers used in the past. The cost of quaternary preparations on the market should decrease somewhat, however, as the volume of quaternary manufactured increases.

The varying chemical structure of the quaternary compound also affects its relative germicidal action against dairy microorganisms. On a ppm basis there are definite differences in germicidal activity evident between the above three quaternaries, for example. The differences between some quaternary sanitizers on the market may be quite pronounced, and, therefore, the chemical structure of the basic product in a quaternary preparation should be considered in the use of these products for sanitizing purposes.

Stability and Residual Bacteriostatic Effect

Quaternary compounds are characterized by a high degree of stability. For example, a quaternary sanitizing solution prepared with a suitable water supply, in the absence of organic matter or other interfering factors, will remain in a stable state and retain its germicidal properties indefinitely. This fact together with their film-forming property enables application of quaternaries to equipment or utensil surfaces after cleaning. Their bacteriostatic effect (inhibition of growth) against a variety of organisms thus provides a stable protective film that prevents growth of bacteria on utensil or equipment surfaces while they are idle between operations. This is a distinct advantage for utensils or equipment surfaces that are difficult to dry since the residual bacteriostatic

The following steps are considered essential in the use of cleaner sanitizers: (1) All equipment must be rinsed thoroughly with cool or lukewarm water immediately after use. (2) All equipment coming in contact with milk must be brushed thoroughly with warm cleaner sanitizer solution. (3) Equipment then may be racked up or hung up to dry with no further treatment. An acceptable procedure includes soaking of rubber milking machine parts in cleaner sanitizer solution (200 ppm quaternary) between milkings. (4) All equipment should be rinsed with clean water or germicidal solution before use. (5) There must be a periodic (preferably weekly) disassembly of the milking machine teat cup assembly for thorough clean-up. Where hard water supplies must be used or the cleaner is of an alkaline type, the periodic clean-up may be facilitated by a soaking of rubber parts for a few hours in an organic acid detergent.

*Presented at the 1950 State College of Washington Institute of Dairying at Pullman, Wash.

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A repeat performance brought this dairy bar, sponsored by the Illinois Dairy Products Association, back to the Illinois Fair in 1950. The association embarked on the project a few years ago and found their efforts meeting with such enthusiasm that continuation of the enterprise this year as a "must".

According to M. G. Van Buskirk, the association's executive secretary, on the two top days for attendance at the Fair, more than 15,000 people per day were served at the bar. The service of 27 people were required in operating it.

In addition to the irrefutable endorsement given by this remarkable patronage Mr. Van Buskirk reports that comments received from all sources were even more favorable than they have been in past years.

effect prevents the usual development of organisms under such circumstances.

Odor and Flavor

Some quaternaries in the past have imparted an undesirable odor to products handled with equipment sanitized with them. As most of the quaternary products now on the market are prepared from purified ingredients, this factor is no longer an important problem. There is considerable variation between quaternaries on the market with respect to their effect on flavor of milk. Some are detectable in concentrations of about 10 ppm quaternary in milk. Others must be present in a concentration of more than 50 ppm in milk to be detected. In general their presence is quite evident in the form of a bitter flavor in concentrations of 10 to 25 ppm in milk.

Toxicity

Most of the studies reported to date indicate that the small quantities of quaternary imparted to dairy products from normal sanitizing procedures should not prove toxic to humans. However, there still is disagreement on this question. The question also must be answered definitely one way or another before quaternaries rather than hypochlorites can be endorsed without reservation for sanitizing just before use of utensils and equipment.

It has been shown repeatedly that quaternaries are less irritating to skin surfaces than are the hypochlorites. Consequently the quaternaries definitely are superior for such operations as washing of udders and teats before milking. One of the reasons why many workers prefer quaternaries for sanitizing solutions is that they cause less chapping and irritation of the hands and arms in use dilution.

Action of Quaternaries Against Various Types of Bacteria

There are two classes of bacteria that may be separated on the basis of their ability to retain or release crystal violet dye when stained and subsequently treated with a decolorizing agent such as alcohol or acetone. Those that retain the dye appear blue or purple and those that lose the dye appear colorless or, if counterstained, usually appear pink. The first group are termed gram positive, the second, gram negative. This staining method is employed in identifying and classifying bacteria. In general quaternaries are effective in destruction of gram positive bacteria, but usually are slower than hypochlorites in destruction of gram negative bacteria.

Examples of gram positive bacteria against which quaternaries are quite effective are the micrococci that commonly are responsible for high counts of thermoduric (heat resistant) bacteria in milk. Examples of gram negative bacteria against which quaternaries usually are less effective than an active hypochlorite are the coliform species and the *Pseudomonas* species such as *Pseudomonas fluorescens*. A knowledge of types of organisms to be removed by the sanitizing agent thus is necessary for effective destruction with the quaternary ammonium compounds.

Quaternaries appear to be less effective in destruction of bacterial spores than are the hypochlorites. Nevertheless, very low concentrations of quaternary compounds seem to be able to prevent germination of spores and growth of spore forming types. This bacteriostatic effect against spore forming types and thermoduric micrococci and streptococci accounts for the success of quaternaries and quaternary containing detergent sanitizers in controlling numbers of thermoduric bacteria in raw milk supplies.

The bacteriostatic effect of quaternaries may be evident against other forms of bacteria as well. Our studies indicate that as little as 10 ppm quaternary in milk may seriously retard growth of lactic acid starter bacteria in starters, cultured milk or in cheese milk. In experimental trials, 10 ppm in the cheese milk delayed cheddaring from 45 to 60 minutes and 20 ppm delayed it indefinitely in Cheddar cheese manufacture. A method has been developed recently that will detect presence of as little as 5 ppm quaternary in milk. This method can be employed where intentional or accidental adulteration of milk with quaternaries is suspected.

Materials That Inhibit Quaternary Action Against Microorganisms

Although they are more stable in the presence of organic matter than are the hypochlorites, presence of organic matter definitely interferes with germicidal activity of quaternary ammonium compounds. This emphasizes

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the necessity of a clean surface before application of the sanitizing agent.

A disagreeable, heavy, brown, gummy precipitate sometimes is formed where quaternary preparations come in contact with organic matter such as milk solids or equipment or utensils. Usually removal of as much as possible of the milk solids or other organic matter before application of the quaternary minimizes difficulty with the precipitate formation.

Cleaner ingredients, such as anionic wetting agents and some polyphosphates, may interfere with germicidal activity of quaternaries. Anionic wetting agents may completely neutralize the quaternary since there is a strong affinity between the anion of the wetting agent and the cation of the quaternary. This emphasizes the importance of rinsing all traces of cleaner away before applying quaternary sanitizer to equipment or utensil surfaces. Nonionic wetting agents and polyphosphates such as tetrasodium pyrophosphate do not interfere with their germicidal action and therefore they may be employed in so-called compatible cleaners to be used along with quaternary sanitizers and also in the cleaner sanitizers.

An important consideration in application of quaternary sanitizers is the type of water employed in making up the solution. Hard water salts such as those containing calcium, magnesium, and iron, tend to inactivate quaternaries. Iron salts are particularly troublesome. Usually, therefore, quaternary sanitizers prepared in hard water are less germicidal than when prepared in distilled or soft water. The effect may be so pronounced that four times as much quaternary may be necessary with some waters to provide germicidal action equivalent to that obtained with a soft or distilled water. Use of sequestering agents, such as certain polyphosphates that bind the hard water salts, may aid in overcoming the inactivating effect of such waters. A high pH in the sanitizing solution also assists to some extent in overcoming the inactivating effect. Some cleaner sanitizers with polyphosphate sequestering agents and a high pH enable rapid germicidal action of the quaternary present in them. Where any question exists relative to the water supply, either the water should be tested by a bacteriological procedure to establish its suitability for quaternary germicidal solutions or the quaternary preparation should be fortified to insure fast germicidal action in various types of water.

MORE MILK ON MORE AIR

Radio and television time has been contracted for by three large dairy products firms.

Seeking to supplement its intensive sales drive Sheffield Farms Company, Inc., has purchased 52 weeks participation in "This Is New York" with Bill Leonard. The purchase was made through N. W. Ayer & Son, Inc., the advertising agency handling the Sheffield account.

Another 52 week deal was consummated when Borden Company signed for the Housewives Protective League Program on alternate days. This is a recorded program with ad-lib dialogue furnished by Galen Drake. The show is a half hour affair from five to five-thiryt P.M.

George Burns and Gracie Allen, great husband - and - wife comedy team, will make their television debut over the Columbia Broadcasting System as the stars of a new series to start in October under the sponsorship of the Carnation Company.

The new Burns and Allen television program will be presented on alternate weeks, with the day and 30-minute time period to be announced shortly. Bll Goodwin, popular announcer-comic long associated with the zany comedy team on radio, also will be featured on the Burns and Allen video series.

Current plans call for the first three shows to originate in New York, after which the origination point will shift to Hollywood.

Determining Concentration of Quaternary Ammonium Compounds

A variety of methods now is available for determining quaternary concentration. One that has been employed during the past several years, both as a sensitive laboratory procedure and a simple, accurate field test, is the eosin titration method. The essential steps include mixing 1 ml. of quaternary solution, 1 ml. of eosin-acetone-tetrachloro-ethane indicator solution, and 0.1 ml. of citrate buffer solution, in a test tube. Presence of quaternary results in formation of a red precipitate. The exact quantity of quaternary present is established by the quantity of standard anionic surface active solution required to titrate the red solution to a colorless state. Modifications of the method may be employed for determining concentration of quaternary in milk, in detergent sanitizer, or in buffered quaternary solutions. Further details on these modifications are available in Oregon Agricultural Experiment Station Circular of Information 472.

Application of Quaternaries as Dairy Sanitizers and Cleaner Sanitizers

The suitability of quaternary preparations for dairy sanitation operations depends on a number of factors discussed above. These include: (1) Suitability of water supply. (2) Approval of use of quaternaries by regulatory officials responsible for the area in which the quaternaries and final dairy product are to be used. (3) A consideration of types of bacteria to be destroyed by the sanitizing agent.

Quaternary sanitizer solutions usually are made up to 200 ppm strength as in the case of hypochlorite sanitizers. Such solutions may be employed for the following operations: (1) Sanitizing (germicidal) rinse following washing and rinsing of equipment. (2) Washing udders and teats just prior to milking. (3) Dipping or soaking teat cups between cows in the milking operation for destruction or removal of mastitis bacteria. (4) Rinsing or sanitizing milking machines, cans, and utensils just before use. It should be noted at this point, however, that if utensils or equipment are rinsed with quaternaries after cleaning or just before use, it may be necessary to again rinse them with either a hypochlorite sanitizer or fresh, clean water that has been bacteriologically tested to assure its purity. The reason for this statement is that any

(Please turn to Page 105)

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RETURNABLE GLASS BOTTLES

Utility is the basis of economy, and you can get longer life, greater service and safety from Liberty's Returnable Glass Milk Bottles. Not one trip, not a dozen trips, but 40 or more trips. What's more, you don't have to have a different bottle for every milk—Pasteurized, Homogenized, Chocolate or Buttermilk—you don't have to read the labels.

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Averages have intrigued and sometimes confused businessmen and ball players for a long time. Indeed there are times when averages are elevated to an importance far in excess of their true significance. In this article, Jim Kluger, our able authority on accounting, whittles averages right down to size. We think you will be interested and possibly relieved by what he has to say.

HOW IMPORTANT ARE AVERAGES?

By M. J. KLUGER

Exclusive feature

One of the most frequent questions asked us by milk dealers is "How am I doing compared to other dealers? Are my costs and profits in line with others?" In nine cases out of ten the answer to the second part of the question is an invariable "no." And then the questioner gets upset, and begins to spend hours over figures and statistics showing average this and that for some supposed representative group of dealers. Hours and worry that could better be directed to setting his own house in better order. I'd not care to meet the "average" milk dealer, the one whose net profit is just so much percent of sales, who earns just so much on his investment, who gets just so many trips per bottle, whose plant loss is just so many pounds. I imagine that guy would be like the "average" man, that great favorite of Messrs. Roosevelt and Truman, but who, unfortunately, or maybe fortunately, doesn't exist. If he did exist, he'd be a pretty dull fellow, socially unacceptable.

Just what is an average? Basically, it purports to be a composite picture of a group of like, or nearly like, things. Mathematically, it is a mean proportion, a medial sum or quantity. Thus, an average attempts to take the pertinent characteristics of a group, and mold those group characteristics into a unit. The most commonly used average is the simple average, derived by the simple addition of a group of characteristics divided by the number of units in the group. The composite butterfat test of a farmer's milk is usually computed by simple average. If his first composite sample tests 3.6%, and his second half month composite sample tests 4.0%, his average test is computed by simple average to be 3.8%, that is, 3.6+4.0=7.6. 7.6 divided by 2=3.8. Here is an example of a commonly used working average, one that is used as a tool in daily operation. As such, it's fine, and a very worthwhile tool. The second most common average used is the arithmetic weighed average. The average test of all milk in a plant is computed by weighted averaging, that is, by assigning a magnitude to each unit in a group, and thus valuing each unit in relation to its importance. Average test of milk received in a plant is computed by multiplying each farmer's weight of milk delivered by his simple average test, adding the products, and dividing the total by the total pounds of milk delivered. The result is a weighted average butterfat test, and it can vary considerably from the test derived by simple averaging, as follows:

Farmer No.	Pounds Del'd.	%	Butterfat
1.	30,000	3.2	960
2.	1,000	4.5	45
3.	10,000	4.6	460
Total	41,000	3.573	1,465

The weighted average is 3.573%. The simple average is calculated by adding the tests, 3.2+4.5+4.6, and dividing the sum by three. The simple average is thus 4.1%, considerably higher than 3.573%. It is obvious that the method used in calcuation is all important. There are many other kinds of averages or means, all developed for the purpose of trying to glean the truth from a mass of data, and the truth in any average depends on the worthiness of the data, the methods of sampling, and the accuracy of the calculations.

Perhaps the most important element in any statistical calculation, of which an average is one, is the bias of the computer. Because, it's true that you can make figures dance around to prove almost anything you wish. Let's take a fellow that wants to buy a going business. He looks around and finds two dealers, both wanting to sell. The first one says his average profits for the last five years were $7,000 per year, and he wants $70,000 for his business. The second fellow says his average profits for the past five years were $5,000 per year, and he wants $80,000 for his business. They're both telling the truth about their average profits, and so you would think the second fellow is a bit nuts for wanting a higher price for a less profitable business. What's wrong? The average. It doesn't mean much unless you look behind it to see what makes it up. And when we do look behind the average profits quoted, we see that both are true, but that the fellow who seems to be nuts has by far the better business.

Comparing the profits of the two dealers for the past five years to see

"HMM—HERE'S A CASE WORTH INVESTIGATING"

(FOR PAPER MILK CONTAINERS)

• • • • • • • AND HERE'S WHY • • • • • •

There's more than one way to skin a cat or fight a war or sell a bottle of milk. Franklin Co-operative Creamery Association of Minneapolis has applied the tremendous appeal of the comic book to the latter problem with consumate skill.

"Teamed For Progress" is one of those positive strokes that really scores. It is a comic book featuring Frank, the Friendly Salesman. Frank, the idol of the neighborhood, takes some of his young friends on a tour of the milk plant. The story is exceedingly well told. The drawings are good. The lessons are so subtly presented that youthful readers will learn the story of milk and hardly be aware of the learning.

Other portions of the book, which runs to 17 pages not counting the front and back covers, present a few well chosen recipes, two or three enticing puzzles, plus a graphic presentation of the fine youth program that Franklin Co-operative carries on in Minneapolis. It is a slick piece of promotion.

what made up the averages, we find:

Year	The Net Profits Are — First Dealer	Second Dealer
1945	$10.000	$2.000
1946	..000	4.000
1947	8.000	5.000
1948	5.000	6.000
1949	3.000	8.000
Total	35.000	25.000
Average	7.000	5.000

Now it becomes obvious that dealer number two has the better business for sale. His profits have been steadily increasing for the last five years, while number one's are just as steadily going down and down. Maybe number two is in a growing territory. Maybe his supply is better. Conversely, maybe number one is in a dying community, maybe his supply is of poor quality. We don't know, but we can find out. The point is, the averages, while they told nothing but the truth to the best of their ability, left too much unsaid, and any purchaser who relied on those averages in making up his mind would be a sadly disillusioned boy. And he couldn't yell "fraud" either, for there was none.

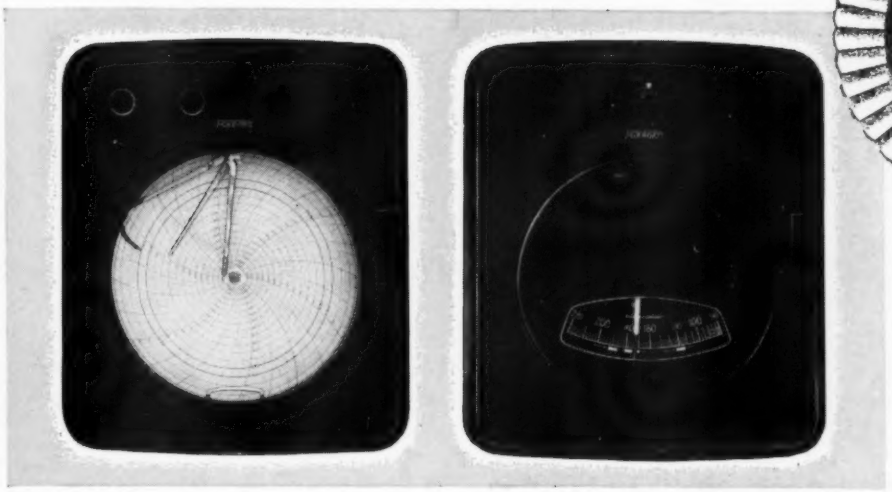
Averages have their place, and a very important one it is, in the scheme of things. Insurance company actuaries can figure almost to the second when the average person in a group is going to die, and they set their rates on the basis of their figures. But the individuals in that group, you and I, don't go about making funeral plans for that particular second, because it won't happen, except by coincidence. And the fellow who dies before the "average" time won't be one whit more consoled about it just because he knows someone else will live longer to make up for his own decease.

In our own field, here in Pennsylvania, we have a milk control law which, among other things, provides for setting up farm buying prices and resale prices of milk. The prices are supposed to be so inter-arranged so as to yield a fair return to both farmers and dealers. The only way the Milk Control Commission can determine the returns to dealers is to collect profit and loss information periodically, which it does, and then average out the net returns for representative groups. This is all well and good, and is about the best way it can be done. But, after the prices are set, based partially on the average net returns of milk dealers, there are going to be many dealers on the nether side, who can earn little or nothing. There will be just as many on the high side, who will enjoy high returns. Very, very few of them will be at the average. The low return fellow is not going to be happy just because he knows there is a corresponding high return dealer to restore the average. But there is a danger that the high return fellow will sit back complacently, self satisfied, and not try so hard anymore. Here again, the point is, in operating your business, the "average" for the group doesn't mean very much. What you're vitally concerned with is your own business and your own figures. This does not mean that the average return computations are of no worth. In dealing with large groups of any kind, a line must be drawn somewhere. Prices can't be fixed high enough to insure the marginal dealer a fair return, nor can they be made so low that only the top bracket boys can earn anything. The average dealer, although he doesn't exist in fact, is the one who must govern. That's all right, as long as the various readers of the average realize just what that average is. It's not, very, very definitely not, meant to be a goal to shoot up or down to.

We read a great mass of published figures, averages and what not, concerning the different products milk is utilized in, by territories, income groups, and so forth. Those are worthwhile figures. In any locality, it's good to know what products are moving better than others, what test of milk it is necessary to sell to keep the customers happy without, on the other hand, giving away butterfat free. But when a dealer starts to cry because the Nofat Milk Company gets 25 trips per bottle, while he gets only 19, and the average for his group in his territory is 22, that's something else again. Or when he sits back complacently because his gross spread is 45%, and the market's average is only 43%, that, too, is something else again. His 19 trips per bottle, and his 45% spread are the result of a combination of many factors, some controllable, and others pure luck. Instead of worrying about the "average" dealer's 22 trips per bottle, our dealer would do better to pay closer attention to the factors which influence his own trippage, and constantly try to improve. Not to get 22 trips, or even 25 trips, but a goal high enough to keep him hopping to

(Please turn to Page 111)

XUM



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Instruments that improve product uniformity

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One of the outstanding pieces of legislation enacted by the present Congress has been the extension of the social security program. Under the new law literally millions of men and women, not covered before, will be brought into the program. In this article, Mr. Unterberger gives you facts and figures on the operation of the law.

Social Security — New Version

By S. HERBERT UNTERBERGER

Exclusive feature

Something new has been added to the Social Security Act. Beginning January 1 of next year business proprietors will be covered by that law. They will have to pay a Social Security tax on their incomes, and they and their dependents will become eligible for old age and survivor's benefits.

How Much is This Going to Cost?

For the years 1951, 1952 and 1953, the tax will be 2¼% of the first $3,600 of net earnings from self-employment. For those who generally make more than $3,600 per year — and this includes most established business proprietors — the tax would amount to $81 a year for the first three years. This tax will be payable together with the individual's final income tax return. The first payment will be due, therefore, by March 15, 1952.

For the following six years, the tax is scheduled to go to 3%, or a maximum of $108 a year. Thereafter the law calls for further increases up to 4½% by 1970. However, these higher rates may never become effective. Formerly, the Social Security Act also provided a series of tax rate increases. But, practically every time one was due, Congress stepped in and postponed it.

Bargain Rate For Self-Employed

The original Social Security Act was designed to benefit employees exclusively. Nevertheless, some businessmen valued its benefits so highly that they incorporated their businesses in order to assume the status of employees and thereby be covered by the law. For them the tax was and continues to be a total of 3%. Under this new provision, persons who operate their own business, either individually or in partnerships, will receive the same benefits but their tax will be one fourth less — only 2¼%.

S. Herbert Unterberger, the author of this article on social security, is Director of Research in the Labor Relations Information Bureau, Washington. This organization is a private enterprise that specializes labor problems such as wage surveys, labor agreement analyses, job evaluations, and similar services. Mr. Unterberger's long service in this field makes him well qualified to discuss this important subject.

How Large a Pension?

This is what the self-employed businessman will get for his money. If he retires at age 65 or thereafter, he will be entitled to a monthly pension for the rest of his life, equal to 50% of the first $100 of his average monthly taxable earnings plus 15% of the next $200. The law calls this amount his "primary insurance amount". For the businessman who makes at least $3,600 each year, his pension will amount to $80 a month. In addition, his wife will also be entitled to a monthly pension at age 65 for the rest of her life. This will be equal to half her husband's "primary insurance amount", or an additional $40 a month. If her husband dies, she will receive three-fourths of his "primary insurance amount" or $60 a month as long as she remains unmarried.

To qualify for this Old-Age Insurance at the age of 65 a self-employed businessman must be covered for at least 6 calendar quarters. A person who begins to be covered on January 1, 1950, could, at the earliest, begin to receive benefits for the period beginning July 1, 1951.

Let us see how this works out for a typical business proprietor. Suppose he is 40 years old when he is first covered by the law on January 1, 1950, and his wife is 38 years old. If he continues to earn at least $3,600 each year, by the time he is 65 and ready to retire he will have paid in Social Security taxes between $2,025 and $3,429 depending on whether the tax rate rises and how rapidly it rises.

According to the mortality tables generally used when calculating the cost of pensions a man age 65 is likely to live approximately 14 years and 5 months, or 173 months. If he retires at 65 he will be able to draw a total of $13,840.00 in pensions. His wife at age 65 is likely to live approximately 17 years and 7 months, or 211 months. She doesn't get to be 65

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until 2 years later. At that time she begins to draw $40 a month for 149 months during her husband's life and then she draws $60 a month for the remaining 62 months of her lifetime. This amounts to a total of $9,680. Between the two of them this typical couple would draw a total of $23,520 in benefits. Of special importance to businessmen is the fact that these pensions are all tax free.

Without affecting his pension the retired businessman may earn up to $600 a year from employment or self employment covered by the law and he may continue to receive unlimited income from his investments. Furthermore, earnings from employments not covered by the law, such as farming or practising a licensed profession, will not interfere with this pension.

General Taxes Pay Part of the Pension

So far, coverage by the Social Security Ace for business proprietors seems to be a good deal. At a lower tax rate, they get the same benefits as their corporate counterparts. It appears that they receive back in benefits much more than they pay in in Social Security taxes. As a matter of fact, if a 40 year old businessman were to buy an annuity from an insurance company which would provide him with approximately the same benefits, it would cost him several times as much as the Social Security tax. To secure an equivalent income from investment, it would have been necessary for him to save over $50,000.

How is it possible to pay in between 2 and 4 thousand dollars and to get back over $20,000? Part of the answer, of course, is that not everyone will live to collect his pension. Fewer than 3 out of 4 persons between the ages of 38 and 40 live to be 65. Another part of the answer is that the money paid in is invested in government bonds at compound interest. A third part of the answer is that not everyone who is eligible will retire at 65. Insofar as they retire later, the amount paid out in pensions will be much less. Furthermore, some individuals may never become eligible because they have too little covered employment. The taxes paid on their earnings remain in the fund from which pensions are paid. The last part of the answer is that in the long run, the amount paid in, plus interest earned on it, will not be sufficient to pay all the pensions due. Where will the difference come from? The Government will probably pay it out of its general tax funds. Self-employed businessmen will certainly pay a significant part of these taxes. Being covered by the Social Security Act, they may now also derive some benefits from those taxes.

Additional Old-Age Benefits

In addition to pensions for himself and his wife at age 65, his dependents are also eligible for benefits. If during retirement has has unmarried dependent children under the age of 18, each such child is entitled to receive monthly benefits equal to half his "primary insurance amount", $40 in most cases, until the child marries or reaches age 18. While his wife has such an unmarried dependent child in her care, she too will receive monthly benefits equal to half his "primary insurance amount" even if she is under 65. All the benefits combined, however, may not exceed $150 a month.

WATCH OUT FOR BITTER MILK

A cow that is about to go dry often gives milk with a bitter taste, and it's possible for the milk from one cow to spoil that of a whole can.

If the dairy plant returns such milk to the farmer, there is a reduction of income, naturally.

Elmer C. Scheidenhelm, extension dairyman at Rutgers University, urges farmers to avoid milking a cow too late in her lactation period.

"When milk supplies are more than adequate there is no demand for milk of low quality," he adds.

Insurance for Survivors

If the self-employed businessman should die before he retires, then his dependents would be entitled to Survivors Insurance. Each unmarried dependent child under the age of 18 would be entitled to monthly benefits equal to half his "primary insurance amount", plus one fourth his "primary insurance amount" divided by the number of children. In most cases this would amount to between $40 and $60. While his widow has such an unmarried dependent child in her care she would be entitled to monthly benefits equal to three-fourth of his "primary insurance amount", $60 in most cases, as long as she remains unmarried. Finally, if the self-employed businessman should die leaving no widow or children eligible for benefits, his dependent parents age 65 or over would be entitled to receive monthly benefits equal to three-fourths his "primary benefit amount". As with Old Age Insurance, the total benefits under Survivors Insurance may not exceed $150 a month.

Employees Get Big Benefit Boost

While the fact that the law now covers self-employed persons is of great interest to businessmen, it must not be assumed that they are the principal beneficiaries of the new amendments to the Social Security Act. The nature of the chief amendments shows that it still is an act primarily designed to benefit employees. This is how the amendments accomplish that purpose. Henceforth, when employees retire, their pensions will be 50 to 100% above what they would have been under the old law. The minimum benefits will rise from $10 to $20 a month. Previously a man and wife could not get more than $78 a month; now they will be able to get up to $120 a month. The maximum benefits, including benefits to dependent children will rise from $85 to $150 a month.

In addition, all the persons presently receiving Old Age and Survivors Insurance benefits—retired employees, their wives, widows, dependent children and parents – will have their benefits increased by from 50 to 100%.

Retired employees will now be permitted to earn up to $50 a month without interfering with their pensions. As a partial offset to these advantages, the tax will be levied on the first $3,600 of an employee's earnings. Previously, it was only on the first $3,000.

These substantially increased benefits will have one other significant

(Please turn to Page 110)

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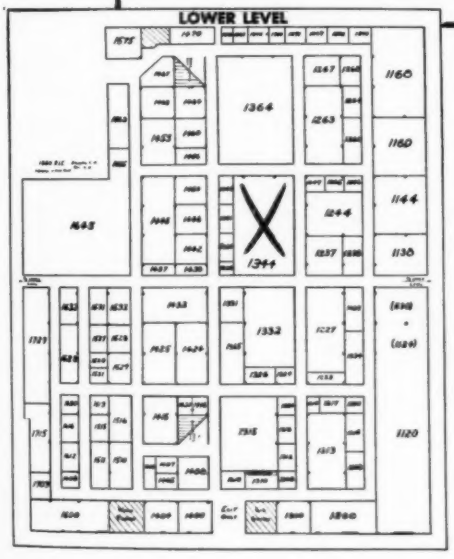

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FOUR POINT FOUR PERCENT

By EMANUEL BAUM

State College of Washington

HOW MUCH DOES it cost to process and sell milk in Middletown, U. S. A.; What sort of a profit does the average milk dealer in the average American community make? Perhaps there is no such thing as an average dealer and and average community in this unique business of distributing fluid milk. There are however, representative communities. A study of one of them, the mid-west's famous Quad Cities showed a net return to the milk handler of 4.4 cents for every dollar of sales.

This study, sponsored by the Iowa Agricultural Experiment Station, was based on the operations of sixteen milk pasteurizing firms during the calendar year of 1947 Although '47 is three years and several crises removed from today's uneasy temper, the structure of costs and returns faced by the milk distributors has not changed materially. Percentagewise costs and profits have remained substantially the same.

Showing a breakdown of the milk dollar in which better than half, 55.9 per cent to be exact, was returned to the milk producer, the study substantiated the work that other investigators had done in other markets.

The Quad Cities are four profoundly American communities located on the most American of Rivers in the heart of that most American of territories, the great corn belt of the mid-west. Due west from Chicago, clustered comfortably around a bend in the mighty Mississippi, the four cities of Davenport, Iowa, Moline, East Moline, and Rock Island, Illinois, have forged an agricultural and an industrial economy into the farm machinery capitol of the world. On January 1, 1949, the population of the area served by milk distributors involved in the study was estimated at 220,000 people. The market operates under Federal Order No. 44.

Emanuel Baum is a member of the faculty at the State College of Washington. He entered that select circle of scholars who are privileged to write Ph.D. after their names by virtue of graduate work carried on at Iowa State College. As an economist, particularly interested in the dairy industry, he did his doctor's thesis on the cost of milk in the famous Quad Cities. The study, sponsored by the Iowa Agricultural Experiment Station, was based on the operations of sixteen milk pasteurization firms during the calendar year of 1947. This study is another attempt to find out the answer to that constant question of costs, spreads, and profits in the milk business. Like other studies Dr. Baum's investigation reveals an absurdy low margin of profit. Four point four percent net return is not very much.

One of the most remarkable facts revealed by the study was the venerable character of the sixteen plants that were studied. The average age of these enterprises was 24.6 years. The trend in the market has been toward increased volumes handled by older and larger firms. Without doubt a major factor in this development has been the federal marketing order. This order, primarily concerned with regulating minimum producer prices makes it necessary for all dealers to keep an accurate and detailed account of the utilization of milk in the plant and for all milk moving in inter-handler transactions. Small handlers have found this accounting chore a heavy burden. This has the effect of encouraging them to sell out to the larger distributors.

In the course of getting the milk from the cow to the consumer, production was the greatest single cost requiring nearly 56 percent of every milk dollar. Of costs associated with the actual processing and delivery of the milk, labor was the largest single item of expense.

Labor costs including administrative costs amounted to 55 per cent of the total operational cost in processing and distribution. The importance of this factor stresses the need for management to secure and maintain an efficient labor force. Dairy plant labor is not unionized in this market, hence it is suspected that the cost of labor may be a more crucial item in unionized markets. Labor cost amounted to 46 per cent of the total plant cost, 64 per cent of the total selling and delivery cost, and 74 per cent of the administrative costs. The above results point toward a greater emphasis on the level of wages and labor efficiency in studying operating margins.

Breakdown of the Price Per Quart of Milk

The weighted average price received per quart of milk equivalent was 16.18 cents. Dr. Leland Spencer's (Cornell University) method of computing retail milk equivalents was adopted in this study. Of the average price of 16.18 cents per quart, 56 per cent or 9.05 cents was returned

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to the milk producer. The producer received 56 cents of every dollar of sales. The milk handler had 7.13 cents per quart of milk equivalent, or 44 per cent of the sale price with which to process and distribute milk, and still yield a net return that would justify the distributor's investment in this type of enterprise. The largest operational cost item was selling and delivery costs. This amounted to 3.07 cents per quart, or 19 per cent of the sale price. The next largest operational expense was plant cost, which amounted to 15 per cent of the sale price. The over-all operating cost totaled 6.42 cents per quart, or 40 per cent of the sale price. The average net return per quart of milk equivalent amounted to 0.71 cents, or 4.4 per cent of the total sale price. The milk distributors studied received a net return of approximately 4.4 cents for every dollar of sales.

Relation of Size to Margin, Costs and Profits

The group of largest firms studied received the largest net return per quart of milk equivalent. This relationship existed mainly because the largest firms secured the greatest efficiencies in their plant operations.

This group also received the lowest weighted average price per quart of milk equivalent because these firms sold a greater proportion of milk equivalents at wholesale. The group of largest firms had the highest cost of interest on accounts receivable because these firms had a more liberal credit policy associated with a greater percentage of wholesale trade. The largest firms in the market paid higher route wages. This factor, plus a relatively less efficient route system by the larger firms, largely explained the higher labor cost per quart. It was observed that the larger firms' delivery routes overlapped more than routes operated by the smaller firms.

Relation of Size of Wholesale Business to Costs and Profits

The firms that had the largest proportion of wholesale sales operated on the smallest margin. The total operating cost was the smallest for the group of firms who had the largest wholesale business. These firms' wholesale business averaged approximately 60 per cent of their total sales. This group of firms averaged the highest net return per quart milk equivalent. See Table 3.

There was no significant difference in plant, container, or administrative costs between the three groups of firms. The group of firms that had the largest per cent of total sales at wholesale had a significantly lower selling and delivery cost. There were several reasons for this relationship. Wholesale customers purchase larger volumes than retail customers. Route drivers can deliver greater number of units per stop and per man hour of labor. The firms in the largest wholesale sales group showed the largest saving in labor use per quart of milk equivalent. Labor cost averaged 1.60 cents per unit as compared to 2.36 cents per unit in the 19 per cent group, and 2.53 cents in the 10 per cent group. A firm that has a relatively large per cent of its total sales at wholesale must secure lower selling and delivery costs through greater efficiency. These firms are forced into this condition because as the percentage of sales at wholesale increases, operating margins decrease due to lower gross unit return.

TABLE 1

An Analysis of Operating Margin, Costs of Processing and Distribution and Profits, Quad Cities (Iowa—Illinois), 1947

Average Daily Sales (Q.M.E.) 2,862

	Average Amount Per Quart, Cents	Proportion of Sale Price (Per cent)
Weighted Average Price Received per unit (Q.M.E.)	16.14	100.00
Unit product cost (Return for producer)	9.05	55.93
Gross Operating Margin	7.13	44.07
Less All Costs:		
Plant	2.41	14.89
Container	0.37	2.29
Selling and Delivery	3.07	18.98
Administrative	0.57	3.52
Total Operating Cost	6.42	39.68
Net return per quart milk equivalent	0.71	4.39

TABLE 2

Relation of Volume of Business to Operating Margin, Costs and Profits, 16 Milk Distributors, Quad Cities, 1947

Average daily sales (Q.M.E.)	8,644	1,339	630
Number of distributors	5	5	6
Per cent sales at wholesale	44	27	17
	——Amount per Quart (cents)——		
Weighted Average Return per Unit Sold	16.11	16.21	16.89
Unit product cost	9.01	8.74	9.80
Gross Operating Margin	7.10	7.47	7.09
Less All Costs:			
Plant	2.22	3.30	2.92
Container	0.36	0.47	0.36
Selling and Delivery	3.17	2.52	3.04
Administrative	0.59	0.58	0.51
Total Operating Cost	6.34	6.87	6.83
Net return per quart milk equivalent	0.76	0.60	0.26

TABLE 3

Relation of Proportion of Wholesale Business to Operating Margin, Costs and Profits, 16 Milk Distributors, Quad Cities (Iowa—Illinois), 1947

Average per cent of sales at wholesale	59.64	19.02	10.49
	——Amount per Quart (cents)——		
Operating Margin	6.88	7.15	7.84
Total Operating Cost	6.05	6.94	7.18
Net Return per Quart	0.83	0.21	0.66

Fluid Milk Sales

The consumption of fluid milk and cream in the Quad Cities, like other communities in the nation, has shown a decided increase during the last decade. Since 1933, right in the heart of the depression, milk consumption has shown a gain. From 1934 to 1939 an increase of 4.4 per cent a year was experienced. From '39 on through the war up to 1948 a truly remarkable jump to 12.2 per cent on the average was noted. The average daily sale of fluid milk in 1947 was 141 per cent greater than that which existed in 1935. Class II sales, mostly fluid cream, have followed the trend of fluid milk sales, but showed greater fluctuations. This trend in Class I and Class II sales is due to (1) an increase in marketing area population, (2) higher family incomes, and (3) a greater proportion of children to the general population age.

The fact of higher family incomes is probably one of the most potent reasons for the increased consumption of fluid milk that the market has enjoyed. The distributors in the Quad Cities market have found that canned

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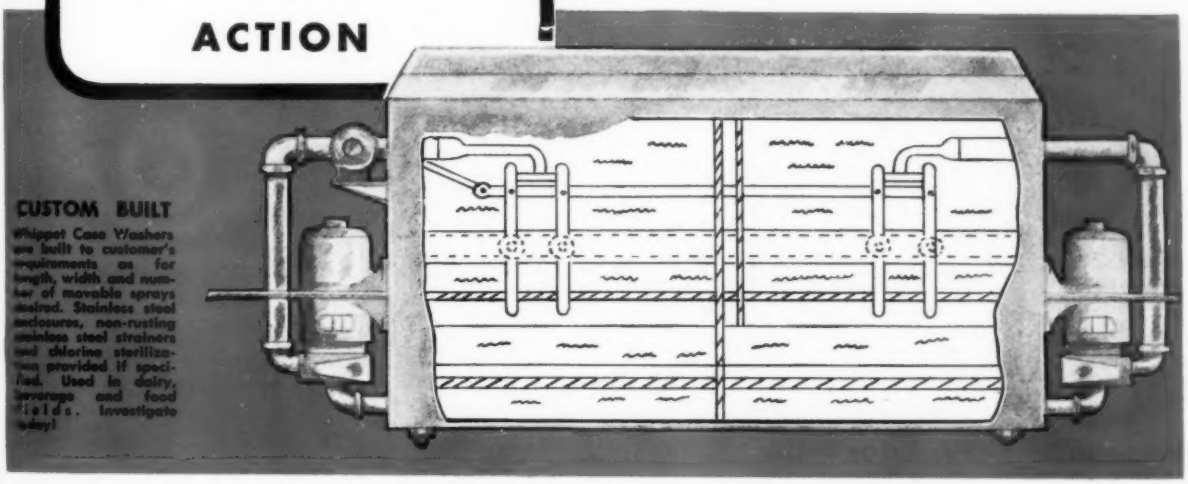

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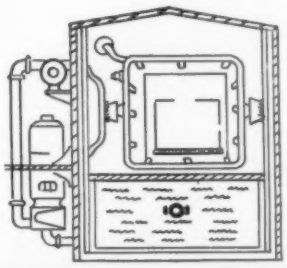


CROSS SECTION OF WHIPPET CASE WASHER

Note encircling formation of sprays for complete drenching of cases. Upright position of heavy duty pump means greater sanitation. The Whippet permits use of highly concentrated washing compounds for rapid penetration. Contro's keep solution of uniform strength. Cases rinse and drain quickly.

Exhibited at Atlantic City Convention — Booth 327

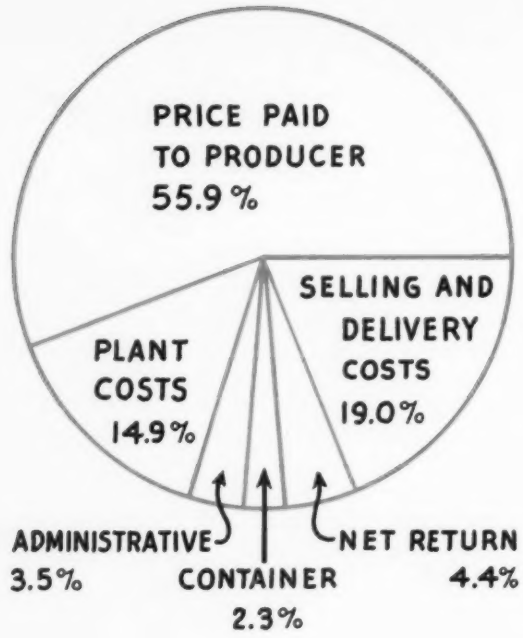
Patents Applied for

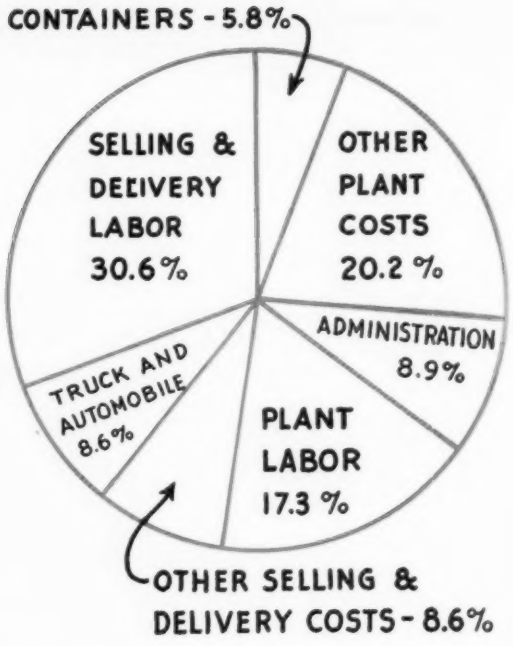
A1

BOTTLING MACHINERY COMPANY

P. O. BOX 172, ROCKAWAY, NEW JERSEY

XUM





milk is rough competition when fluid milk prices get out of line. Lower income families substitute evaporated milk for fluid milk and cream when the price differential makes it an attractive thing to do. This makes the ability of distributors to adjust their operations readily to the demands of a fluctuating economy an important consideration. Unfortunately many of the operational costs are hard to move, labor charges for example. Large fixed capital costs require the maintenance of a workable operating margin. Consequently, with these fixed charges looming so large in the cost of doing business and the resulting prices charged for the product, changes in milk prices are likely to lag behind changes in the rest of the economy in a deflationary period. When this happens consumption of milk is discouraged and a shift from fluid to evaporated milk takes place.

Consumers have been so well indoctrinated with the importance of milk in the diet during recent years that a shift away from fluid milk as economic activity declines may not be as sharp as it has in past, however.

Effect of Low Milk Prices

The period of O.P.A. control of milk prices during World War II is an excellent illustration of how relatively low retail milk prices can stimulate fluid milk consumption. Another example of the elasticity of demand at relatively low milk prices is the result of the public milk relief distribution programs during the period between 1930 to 1940.

Milk dealers ought to be familiar with the economic concept of "the elasticity of demand." The measure relates the percentage change in demand associated with a one per cent change in price. If a one per cent change in the price of milk is associated with a less than one per cent change in fluid milk sales, then it can be said that the demand for fluid milk is relatively inelastic. W. G. Sullivan (U. S. D. A.), who studied relief milk distribution, found a 164 per cent increase in consumption in Washington, D. C. This increase in milk consumption was associated with an approximate 60 per cent decrease in price. Similar findings in Sullivan's study indicate that the demand for milk is inclined to be elastic among low income families when prices are relatively low.

A condition similar to that which existed in the relief program prevailed during World War II. Consumers disposable incomes increased markedly during this period, yet retail fluid milk and cream were held constant. This relationship held true in the Quad Cities, as well as in the other United States markets. Milk dealers in the Quad Cities found that consumers who drank little or no milk previous to this period of prosperity increased their consumption of this food. Although retail milk prices have risen in line with increased wholesale milk prices and costs of processing and distribution since 1945, milk prices have not risen as much as many other food prices. Hence, per capita consumption has remained at a high level.

Comparative Price Rises 1935-1939 to 1949

In the November, 1949, issue of the *Dairy Situation*, it was shown that the September, 1949, retail price of fluid milk was 169 per cent of the comparable price in September 1935-1939. For all foods, the September, 1949 retail price index was 204.2 per cent of the comparable prices in September, 1935-1939. The September, 1949, retail price index for red meat, eggs and fish were 242 per cent, 232.6 per cent and 311.9 per cent of the comparable prices in September, 1935-1939. The condition of milk being a relatively cheap food still holds true in August, 1950.

Milk handlers fear each rise in the retail price of milk because they fear

(Please Turn to Page 104)

You save 5 ways using
UNITED STEEL MILK CASES

1. YOU SAVE INITIAL & REPLACEMENT COSTS

Many dairymen have found they spend less than half as much for milk cases over a 10-year period when they use United Steel Wire cases. You save, first, with a lower initial cost. You save, too, in replacement costs as these tough, welded steel wire cases won't rot or burn. They withstand hard wear and abuse that destroys other cases. You have fewer cases stolen. As a result, you have fewer cases to buy and increase your margin of profit.

2. YOU SAVE COOLING TIME

Users find their milk, placed in cooling rooms, cools in ⅓ the time in United Steel Cases. There is less material to cool. There are no wood barriers to retard the cooling process. Your compressor runs less and your power bills are greatly reduced.

3. YOU SAVE FLOOR SPACE

United Steel cases take less room in the plant, cooler room or truck. They relieve crowded conditions to increase the efficiency of all workers. They win favor with customers too, because they take so little room.

4. YOU SAVE STORAGE AND HANDLING COSTS

United Steel Milk Cases are so lightweight and easy to handle, they save many hours daily in handling time. They reduce worker fatigue and improve employee relations. Fast, sure stacking saves time for all.

5. YOU SAVE CUSTOMER TEMPERS

Your customers are not embarrassed by clinging refuse and dirty bottles when you use these cleaner cases. There are no cracks or crevices to collect filth and bacteria. They will not hibernate cockroaches and other vermin. Instead, United States Steel Cases reflect the cleanliness of your plant. They make a favorable impression on your customers and help win new business for you. United Steel Cases are often the deciding factor in securing milk contracts from schools, hospitals, hotels and other institutions. Because of their steel wire construction, they are not used as waste baskets and garbage containers. Cleaning is simple and complete by any method.

Whether you use round or square glass bottles or paper cartons, there is a United Steel Case for all types and sizes that will give you these five-way savings. Write Department AM today for full details.

UNITED

Booth No. 459 Dairy Exposition

STEEL AND WIRE COMPANY

BATTLE CREEK, MICHIGAN

Manufacturers of Crates . . . Carriers . . . Icing Trays . . . Ice Cream Equipment

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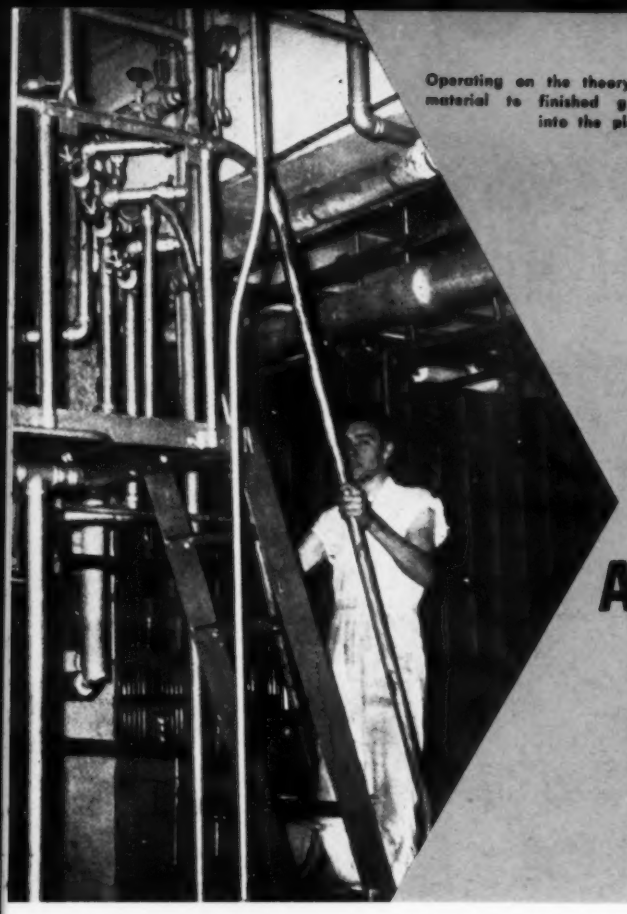


Operating on the theory that a good salesman knows his product from raw material to finished goods, Pine State Creamery puts its routemen right into the plant to learn at first hand what goes on.

PINE STATE SALESMEN ARE GOING TO SCHOOL

By JOHN GREGORY

"IT ISN'T WHAT you make,, nor how you make it, that brings success in business, it's how you sell it."

Thus does James D. Kilgore, president of the Pine State Creamery Company, Raleigh, N. C., indicate one of the principle reasons why his company is one of the outstanding milk and ice cream organizations in the southeast. With 60 salesmen it covers central North Carolina and a part of southern Virginia, using 100 trucks and four 24-ft. trailers. It is now beginning its fortieth year in business.

Basis of the Pine State's effectiveness is a salesmen's school, of which Mr. Kilgore said,

"Our salesmen's school is most important to our company for three reasons:

"It teaches our men what they are selling, and how it is made.

"It shows them how to sell under ethical principles.

"It establishes the principles under which our company was founded and succeeded, and inspires loyalty and enthusiasm."

The Pine State Creamery company was founded in 1919 by Dr. Benjamin Wesley Kilgore, father of the present president. Lyman Kiser is vice-president, C. D. Russell, secretary and treasurer. Mr. James D. Kilgore is general manager. When established, Dr. Kilgore was dean of the Agricultural Department, State College, Raleigh.

The main building of brick, reinforced concrete, and steel occupies a corner lot on Greenwood avenue, one of the city's main thoroughfares. In the rear of its 120x120-feet space are two warehouses, 120x40-feet each, and a 100x100-ft. garage surrounding a loading area.

The salesmen's school is conducted in a building across the street from the warehouses.

The company processes milk, makes ice cream and ice cream novelties, stores and sells eggs, owns and conducts Kildaire farm near Cary, N. C. On 800-acres, with 65 purebred Guernsey cows and hundreds of chickens, it supplies a retail outlet with dairy products and eggs. The company is establishing a wide market for cottage cheese.

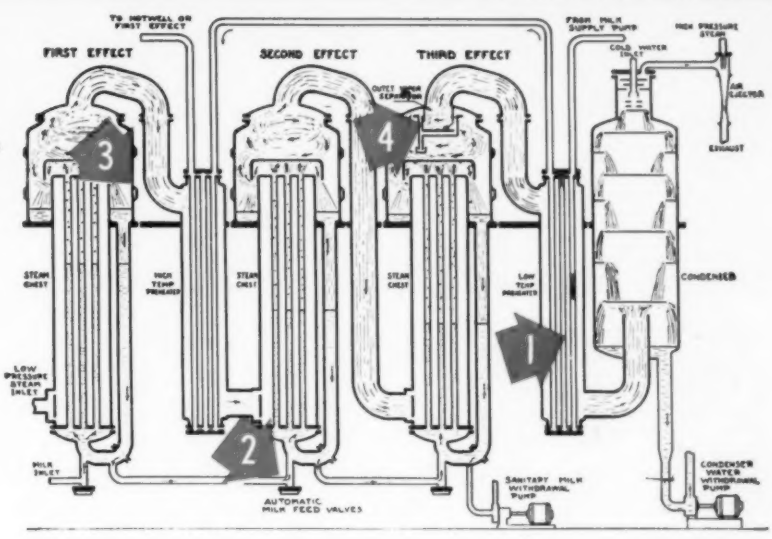
"Milk processing, ice cream making, and our other activities," President Kilgore said, "is a specialized business requiring detailed knowledge among those in charge of production. We believe that those who sell our product to dealers should be equally informed of all our methods: the way we manufacture, pack, and ship; each detail of our complex organization. This belief inspired our school for salesmen."

The school is held every two weeks from 3:00 p.m. until 4:00 p.m. Adequate space gives room for comfortable seating, and to display charts, motion pictures, and other interesting material. All salesmen attend, and other employees if they desire. No dealers are admitted.

Sales supervisors from different departments conduct the school. If milk processing is to be discussed, Adam Kern, head of this department, or a sales supervisor, explains what kind of milk is brought from a receiving station in Oxford. Here the company maintains a 50x50-ft. building and garage. Or from Henderson, 12 miles east of Oxford, where it operates another receiving station.

Detailed explanation is given of the passage of milk into receiving tanks,

LOOK at the EXCLUSIVE money-saving features you get ONLY with the HENSZEY *Multiple Effect* EVAPORATOR



1 Vapor Preheaters are part of the Henszey system that re-uses heat from waste vapor for pre-heating the milk from 50° to 175°. This salvaged heat is further utilized in two more effects for evaporation. This is a Henszey-originated principle.

2 Simple adjustable Milk Feed Valves fit right into the milk line . . . control milk levels *automatically* for hours on end. This exclusive feature is continuously reliable . . . needs no attention after setting.

3 Henszey Chill Ring controls foam . . . increases efficiency by definitely holding foam down to the ring level. Also a Henszey development.

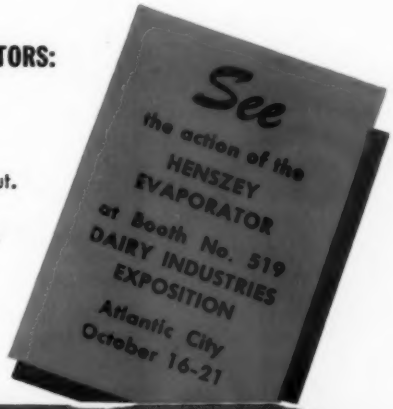
4 Exclusive Henszey Vapor Outlet Separator removes milk particles with cyclone action. Milk recovery effectiveness: 99.98%.

and look what else you get with HENSZEY MILK EVAPORATORS:

- **COMPACTNESS** . . . greater capacity in smaller space.
- **EASY CLEAN-UP** . . . all parts readily accessible and easily cleaned.
- **CONSTRUCTION** . . . exceptionally rugged, high quality throughout. Milk touches only stainless steel.
- **PRETESTED** . . . completely assembled and tested *before* shipment.

Write for complete details in new illustrated bulletin.

HENSZEY COMPANY
DEPARTMENT A • WATERTOWN, WISCONSIN



HENSZEY

MILK EVAPORATORS and PREHEATERS
ALSO POWER PLANT SPECIALTIES INCLUDING:
CONTINUOUS BLOWDOWN • FEED WATER METERS • HEAT EXCHANGERS
FLOW INDICATORS • BOILER FEED REGULATORS • PROPORTIONING VALVES

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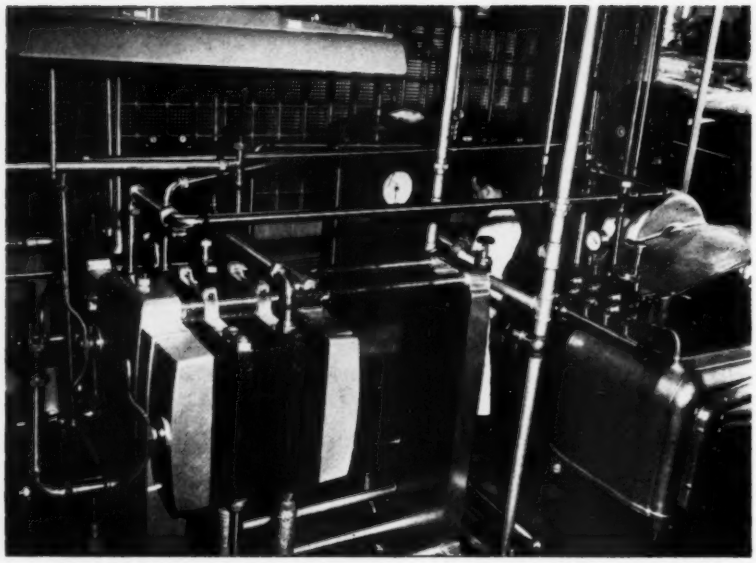


A lesson in sanitation and good housekeeping is more than an abstraction with Pine State salesmen. This section of the processing room is a prime lesson in what those terms mean. The extensive investment a modern milk plant requires is demonstrated by the superb equipment on the floor. At right is James D. Kilgore, son of the founder and now President and General Manager of the company.

into pasteurizing tanks, how it is homogenized, and what both mean to the consumer. Mr. Kilgore said:

"Advertising has emphasized the word 'pasteurized'. It is generally accepted that pasteurized milk is better for human consumption than raw milk. But suppose someone asked our salesman why. He'd feel pretty silly not to know the answer.

"In our school he learns how the study of the chemistry of fermentation led the famous Dr. Pasteur to study bacteria which produces fermentation and eventually to his discovery of the method to diminish microbes by the use of heat. He learns who Pasteur was, where and when he lived, and details of his methods. He also learns the composition of milk in proteins, carbohydrates, fat, salts, and water, and what each means in milk."

Mr. Kilgore said these instructions were not chemical studies. The information is imparted in easily understood words so that each salesman can understand and inform others who may be interested.

"I can't imagine a man selling something well if he doesn't understand what he's selling," he stated. "But if he understands it, and the full process of its manufacture, he can talk intelligently. Intelligent selling produces results."

Learn Ice Cream Production

The same procedure is followed if ice cream production is discussed. W. C. Orders has charge of this department. He, or a sales supervisor, describes in detail how ice cream is mixed, frozen, packed, and stored in hardening rooms. They get a full explanation of the blower system the company uses, temperature maintained, the use of a freeze unit, and how ice cream is shipped in refrigerated trucks, and what hold-over plates in these trucks means.

All this information is followed, in every process of manufacture, by personal examination of the various departments of the plant, and detailed explanation of machinery by those in charge. Even to loading through six loading doors 14-ft. wide, 9-ft. high, with chutes, from a 20x60-ft. loading platform.

Repetition of lectures, what is done, why, when, and how, and by what means, makes every process clear to salesmen. Intelligent men, it doesn't take much talk to produce intelligent questions.

They begin when the lecture is ended. Anyone may ask whatever questions he desires, extending, of course, to the art of selling.

No Stone Unturned

Sales supervisors dig deeply into this art. Formerly salesmen, they know every kink in this highly competitive activity. They talk on every contingency that may arise. How to approach. How to lay out a sales proposition. How to answer any question. How to maintain friendly relations.

"I can keep talking, but how do you close?" a man may ask.

"Don't oversell," he's warned. "Don't high pressure the sale. Never knock a competitor or competitive goods. If you've said something which made an impression, go over it again. If you can't make the sale, don't get sore. Leave him feeling that he'd like to see you again. He's in business to make money. He'll always be glad to learn how he can make more. Show him how he can do it with your goods and eventually he'll come around, especially if you make him your friend."

Another speaks up, "Sometimes I get to arguing with a dealer. I know my stuff and I win the argument. But no sale."

"You didn't go to see him to win an argument but to sell. If you win the argument and lose the sale, where's your percentage? I'll take the sale."

The salesmen's school curriculum extends to the entire product of the

(Please Turn to Page 117)

SALES are GOING - GOING - GOING!

to the Dairy with

WEATHER-RESISTANT
TAMPER-PROOF

SMITH-LEE CELLOPHANE HOODS

CELLOPHANE — America's No. 1 salesman is doing an outstanding selling job for dairies everywhere. It dresses up your bottles with extra freshness and extra sales appeal. Nationally promoted Cellophane assures you immediate consumer preference. Yes, Milk sales are going . . . going . . . going to the dairy with Cellophane Hoods. If you'd like to make a bid for increased volume, then consider Cellophane. The greatest advancement in modern milk packaging costs you less per bottle than any similar hood-type packaging.

SMITH-LEE ACTUALLY HELPS YOU SELL
with a Smith-Lee Custom-Built
Advertising-Merchandising Plan

FREE to Cellophane Hood Dairies
- Newspaper Mats
- Radio and Television Continuity
- Sales Promotion Guide

How to Increase Sales . . . How to budget and plan your sales promotion program

Smith-Lee
HOODS
PACKAGE YOUR MILK FOR GREATER PROFITS

CAP HEADQUARTERS

SMITH-LEE CO., INC. ONEIDA, N. Y.

AN INVITATION

We cordially invite you to visit our booth — No. 1424 — at the Dairy Industries Exposition.

XUM

Three Day Delivery Works Well In Columbus

By WARD K. HOLM

IT IS A GOOD GUESS that more milk dealers have lain awake more nights trying to figure out ways of reducing costs than any other group of businessmen in existence. The narrow margins on which milk dealers operate makes such insomnolent exercises imperative.

Of all of the various operations that offer some hope for economy none presents quite the opportunity that one finds in retail delivery. Two recent cost studies, one by Dr. Leland Spencer of Cornell and the other by a Special Commission on Agriculture representing the legislature of the State of New York, have found the distribution systems, retail and wholesale, as the most fertile ground for improvement.

In Columbus, Ohio we have worked out a three day delivery system that, while it has faults as well as virtues, in general has been an impressive answer to this problem of distribution costs.

The latest estimate on the population in metropolitan Columbus would indicate that we have approximately 500,000 persons being served by 17 dealers giving retail delivery and 8 others serving through wholesale outlets.

We have what we think is a very strict board of health which allows only milk which is produced on Columbus inspected farms to be used for both fluid milk products and ice cream. There are no cities of any consequence close by so that we have frequently been referred to as an "isolated" market.

We have a very active dealers association representing every dealer in the market and through the years the efforts of the dealers working together have made a number of important economic changes. These have been market-wide and several of the changes were unique in the dairy industry. Briefly these have been: developing of the universal bottle plan in 1935; the adoption of the light weight bottle and case in 1941 and in January, 1945 the first market to go to the square bottle.

We have never thought it practical to go to the universal case. However, we do have a cooperative set-up for the return of foreign cases and cans at regular periods.

We have also made a number of changes in delivery, most of which have become common practice in your markets, no Sunday delivery in 1941 otherwise known as six-day delivery. At the same time we inaugurated the 7 A.M. starting time for both wholesale and retail. It was interesting to note in a recent survey made by the Milk Industry Foundation that most markets were starting delivery on retail between 6 and 6:50 A.M.: and that most of the wholesale starting time was between 5 and 5:50 A.M.

At the time these changes were made, we also eliminated the matter of delivering specials and stopped making call-backs. Specials are coming back to a limited degree but so far very few call-backs.

In 1942 we went to every-other-day delivery which of course put us back making Sunday delivery. The fact that our drivers had had a taste of Sunday off, made them very helpful in making the shift to three-day-a-week delivery about a year later. This was about the time the rest of the country were going to every-other-day delivery at the request of the government. In this change as in all others the entire market cooperated.

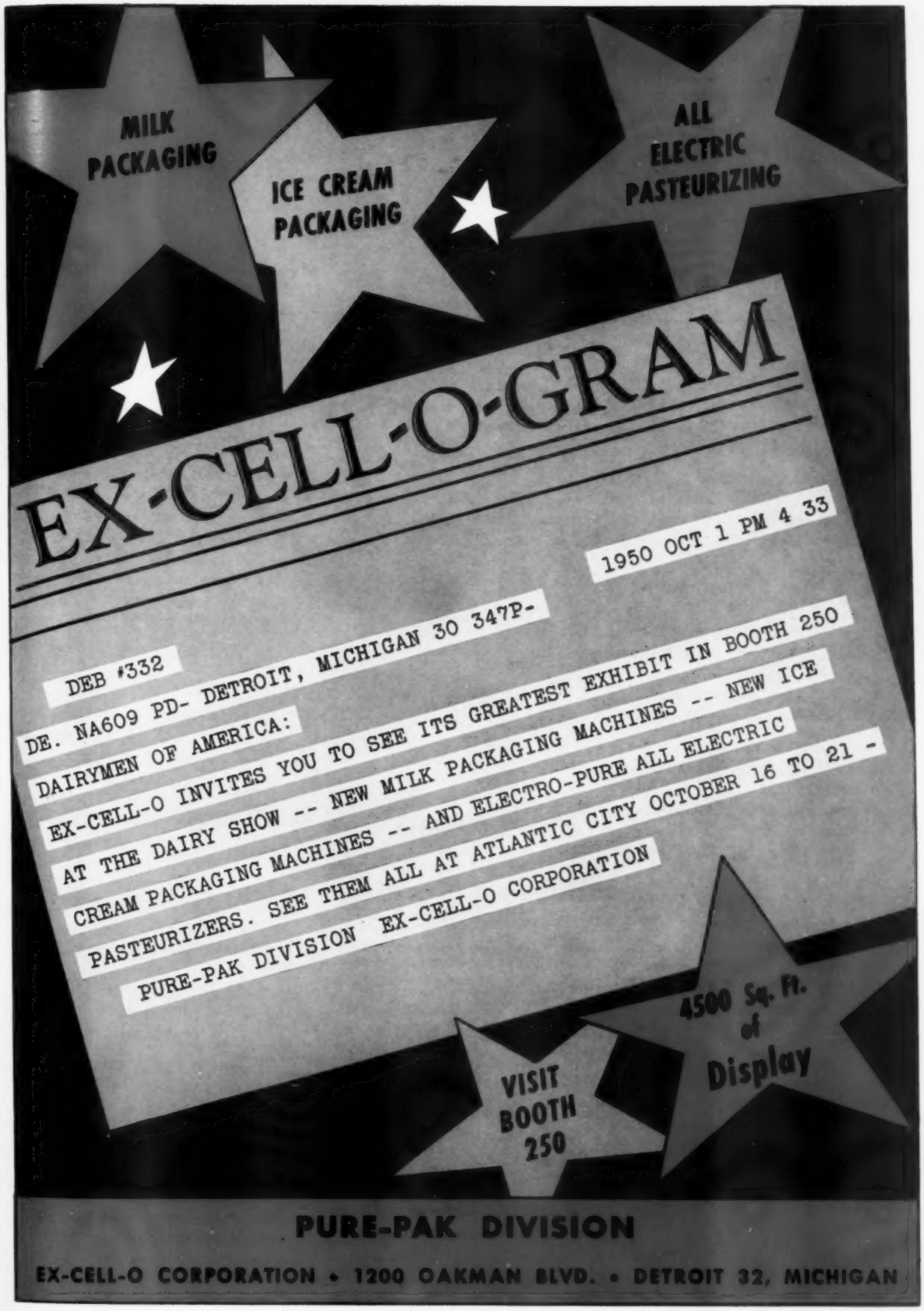
As you undoubtedly realize, going from every-other-day delivery to three-day-a-week delivery merely eliminates Sunday delivery and as I will point out later, the big saving is in the minimum of Sunday activity.

The MIF survey to which I referred showed that out of 397 cities, only 76 had any three-day-a-week delivery. This represented 117 members of the MIF out of the 582 reporting. In other words, about 20% of the members and cities reporting were delivering on a basis of three-day-a-week. Sixty eight and five-tenths per cent of the cities had EOD delivery

Ward K. Holm is the executive secretary of the Colorado Dairy Products Association. This article on three day delivery was presented as a paper before the New York State Milk Distributors, Inc., at their annual meeting last November. At that time Mr. Holm was the secretary of the Columbus Milk Distributors Association.

In the August issue of the American Milk Review, Mr. Ralph Young raised some pertinent questions concerning every other day and three day a week delivery. This article answers some of those questions.

WARD K. HOLM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DAIRYMEN OF AMERICA:
EX-CELL-O INVITES YOU TO SEE ITS GREATEST EXHIBIT IN BOOTH 250
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PASTEURIZERS. SEE THEM ALL AT ATLANTIC CITY OCTOBER 16 TO 21 -
PURE-PAK DIVISION EX-CELL-O CORPORATION
4500 Sq. Ft. of Display
VISIT BOOTH 250
PURE-PAK DIVISION
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and the balance of 12.5% represented other types of delivery. I was surprised to find from this survey that apparently New York state has very little if any three-day-a-week delivery at the present time. I might also point out here that in the MIF survey, 45 of the 117 members having three-day-a-week delivery found they could successfully sell three days per week regardless of their competitive schedule.

As I will point out later, one of the main advantages of three-day-a-week delivery is the economic savings. Therefore, before going further, let us take a look at the breakdown on our operating costs. Dr. Spencer in his study of the New York area shows the following component parts of the consumer price for milk.

You will note that receiving, processing and transportation accounts for 2.6 cents per quart, bottles and caps .5c, selling and delivery 6.2 cents and all other costs. 6 cents, making a total operating cost of 9.9 cents out of 22.5 cents selling price. It is self evident that if any savings might be made in those costs the best opportunity certainly appears to be in the receiving, processing and transportation and the selling and delivery costs.

At this point I might say that our bottle and cap costs in Columbus are under .2 cents. This is due mainly to the economy resulting from our universal bottles.

Now what part of these costs are accountable to labor? By this same Spencer study we find 6.7 cents or 62% of the total dealer's operating cost as due to labor and 5 cents out of the 6 cents selling and delivery costs and 1.3 cents out of the 2.6 cents for receiving, processing and transportation.

Let us consider what are the advantages of three-day-a-week delivery. Probably the biggest saving is no Sunday delivery. This means your sales forces work one less day which further means that if your men are working six days per week there is no need for a relief force in the normal operation. On the basis of one day less sales force per week, this would mean that you would have one-seventh or 14 percent less men on your sales

COMPONENTS OF THE PRICES PAID BY CONSUMERS FOR STANDARD MILK IN 1-QUART BOTTLES, DELIVERED

New York Metropolitan Area, October, 1947

Item	TOTAL COST Cents per Quart	LABOR COSTS Cents per Quart	LABOR COSTS Percent of Total
Dealer's Product Cost	12.1c	—	—
Dealer's Operating Costs:			
Receiving, processing, transportation	2.6	1.26	48.7
Bottles and Caps	.5	—	—
Selling and **Delivery**	6.2	5.0	80.5
All other costs	.6	.43	71.8
Total Operating Costs	9.9	6.69	62.6
Taxes on Dealer's Profit	.2	—	—
Net Profit after Tax	.3	—	—
Price Paid by Consumer	22.5c		

force and that you can see would be an appreciable saving.

Another big advantage to not needing relief men on your sales force is the elimination of all the inherent problems connected with relief or what is commonly known in Columbus as the "skipper" system. You can see there would be no auditing, checking, customer service and collecting problems.

Another big point in favor of giving Sunday off is it is a morale builder. Certainly most of your sales-

T. KLINE HAMILTON

Vice-president and General Manager of Diamond Milk Products, Inc. in Columbus was a leader in the development of three day delivery.

men appreciate the value of not having to work on Sunday and this goes a long way towards keeping your men happy or visa versa, having men working on Sunday presents a constant morale problem.

Making no deliveries on Sunday eliminates a large part of Sunday plant work. This will vary in different plants depending on the capacity and the manner in which the milk is handled. In Columbus, several plants shut down completely on Sunday since it is possible for them to have their daily producer's milk delivered to a manufacturing plant on Sunday. This of course necessitates having sufficient milk during the six days of the week to meet a seven day consumer supply During the very short season those dealers probably will need their Sunday milk but you can see during the flush season there is one day's supply of milk they do not have to handle. Normally most of the plants in the Columbus area do receive and cool Sunday's milk but that is the only regular Sunday operation. In some cases the garage mechanic may be making repairs on the trucks or repairs and fixing up in the plant may be carried on on Sunday. However, this is a very definite advantage in that it does not interfere with the routine operations during the week.

With so few men working on Sunday in the plant, less relief men are needed and here again giving Sunday off to the plant men is a definite factor in morale. As you can readily see the bulk of your plant actually operates 52 less days during the year. It does not take any master mind to see possible savings in electricity, steam, fuel, etc. As I indicated earlier, having these 52 days when the plant is practically idle gives you something to fall back on in case of major repairs or changes. If you have a breakdown during the week, you can count on catching up on Sunday.

There is an equipment salesman in our market who seldom has a complete Sunday at home because he is usually working in one of the plants either installing new equipment or repairing old since it is the logical time to make these changes. I know from definite observations that this causes a problem in that family.

Another little gimmick which we think is a definite advantage in our

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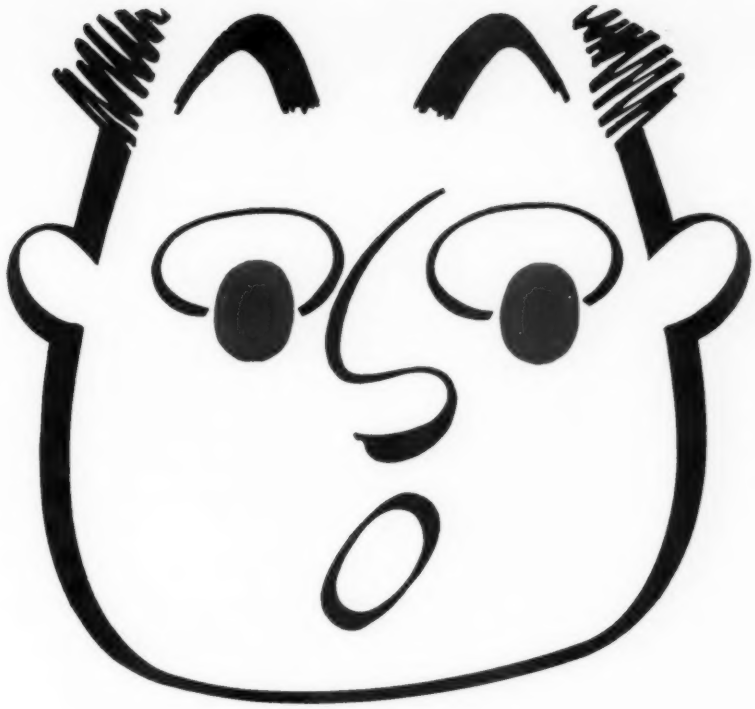

Your Eyes Will POP Aplenty

WHEN YOU SEE THE

NEW BUFLOVAK MILK EVAPORATOR and SPRAY DRYER

at the DAIRY INDUSTRIES EXPOSITION

OCTOBER 16-21, 1950, ATLANTIC CITY, N. J. BOOTH No. 567

New Equipment - New Features - For Greater Profits

SEE The BUFLOVAK Double Effect Milk Evaporator with the new close-coupled tangential Vapor Separators that save valuable milk solids. Equipped with Vapor Heater that preheats milk to 115° F. at no cost. Used with Multiple Effect Evaporators, you can save 67% in steam and 80% in cooling water. Automatic controls assure peak capacity performance and a uniform high quality product.

SEE The BUFLOVAK Low-Temperature Evaporator. Operates as low as 50° F. This latest, improved, sanitary Downflow type is extensively used to concentrate delicate heat-sensitive products and citrus juices.

SEE The new, sensational BUFLOVAK Spray Milk Dryer that is outselling all other makes. Has high capacity; low first cost; sanitary construction; occupies small space that eliminates excessive building costs. Produces a high quality product by a new, fast drying method. Has high recovery of solids . . . lower operating costs . . . simplified construction with only 4 spray nozzles. The sanitary metal powder collector requires no replacements.

SEE The BUFLOVAK Milk Preheater (steam type), speeds up production and cuts cost. It can be quickly closed for operation and easily opened for thorough cleaning. There are no parts to disassemble and no gaskets to replace. Thoroughly sanitary.

Sure, we'll send catalogs and information too. What would you like?

BUFLOVAK EQUIPMENT DIVISION

OF BLAW-KNOX COMPANY -:- 1627 FILLMORE AVENUE, BUFFALO 11, N. Y.

XUM

three-day-a-week delivery is that when Christmas rolls around, we shift our deliveries to either the Sunday before or the Sunday after and make no deliveries on Christmas Day. This you can see would mean a lot to the men.

In this connection I might comment that our drivers are 100% sold on three-day-a-week delivery. It has meant more money. It has meant no Sunday work and it has meant Christmas Day off. Recently the drivers union made it known that they were definitely in favor of doing everything possible to keep three-day-a-week delivery.

In Alberta, Canada, the Board of Public Utility Commissioners, has rendered a Decision continuing in force its Order eliminating Sunday deliveries in the City of Edmonton. In its findings the Board noted that 80% of the dairy workers had voted for a continuation of the six-day plan. The Decision, in commenting on the evidence presented, states:

"The Board fully appreciates and does not overlook that fact that no milk delivery on Sunday may cause some inconvenience in some instances. On the other hand, we find stability in labour management relations which are so important and we find economies which are vital in relation to price levels."

Having considered the main advantages to the distributor and employees let us look at the possible advantages to the consumer.

In a check among our Columbus dealers it is estimated that to return to EOD, operating costs would increase approximately one-half cent. Of course the ultimate benefactor of this saving is the consumer, therefore this is the number one selling point to her.

J. F. Malone of the Borden Company reported at the MIF convention last year that to return to daily delivery from this three-day-a-week plan would increase operating costs 2½ cents.

We have found that Mrs. Housewife likes the idea of receiving her milk on the same day each week. I am sure you have all experienced confusion among your customers as to whether this is the day for her delivery. A number of devices such as calendars, etc., have been devised indicating that the day of delivery is a definite problem.

Another definite advantage to Mrs. Housewife is the 26 less days each year that she need not put out bottles and bring in the milk. The oleo people have been telling our Ohio consumers about the time to be saved by buying colored oleo – this would be a much greater labor saver for her.

The housewife likes to see her milkman have Sunday off like most other people. The churches are strong supporters of the three-day-a-week delivery because of this Sunday off angle. This will help sell the program.

Are there any disadvantages to the consumers? I checked with a number of our Columbus salesmen and found this to be their answer: "Once in a while a customer may complain that she doesn't have refrigerator space to carry the week-end supply of milk." They have found that in most cases the housewife did find room and soon became happy with the delivery.

When we went to three-day-a-week delivery we felt that we should be able to show conclusively to the housewife that she could buy three days supply of milk without any worry of keeping it for several days and with this in mind the Ohio State University made a detailed survey of the keeping quality of milk under typical household conditions and found that the milk would keep at least four days after delivery without any trouble whatsoever and the better care the milk had the longer it would keep its original flavor and quality. This survey was given considerable publicity in the Columbus market.

(Please Turn to Page 109)

A LETTER TO THE EDITOR

Dear Mr. Myrick:

I have long been a reader of the *American Milk Review* but I was indeed surprised and disappointed to find you publishing the article "Group Suicide". This article glibly indicates that the solution to the problems of our industry is to go back to "early morning delivery at least six days a week, plus emergency service", and that while it "obviously cost the industry a large sum of money each year", "the saving of a few cents a week (to the consumer) – is of no real consequence".

One of the big problems we face today is the tendency to oversimplify our problems and their solution – to take a quick superficial look at the problem and give an equally quick superficial solution. This article is a good example of the practice. While it is to be expected from the uninformed, it seems to me it is certainly unbecoming to the *American Milk Review*.

Such expressions as "the fact remains", "it is self-evident", "clearly suggests" are poor substitutes for facts. Blandly saying that conditions in New York City are basically the same as throughout the country does not indicate a very studious investigation. Defining as "service" what has long since been determined to be "nuisances" to the customer and costly inefficiencies to all is certainly a backward and shallow view.

From over ten years of actual experience with daylight, no-Sunday, three-day-a-week modern streamlined delivery service, and by a further exchange of experience with fellow distributors throughout the country, it is my opinion that, far from solving our problems, the reactionary proposal would greatly aggravate them.

This is not an effort to criticize the article in detail, but only to record my disappointment, particularly because the influence that it might have on those who may not think the question through clearly. I do want to point out emphatically that actual operating experience shows streamlined milk delivery service to be a big stride forward in the continuing and vital responsibility that is ours, as processors and distributors of man's most perfect and most universally used food, to get more milk to more people at less cost.

I trust you will accept this criticism in the constructive and sincere way in which it is sent.

Cordially yours,
T. KLINE HAMILTON

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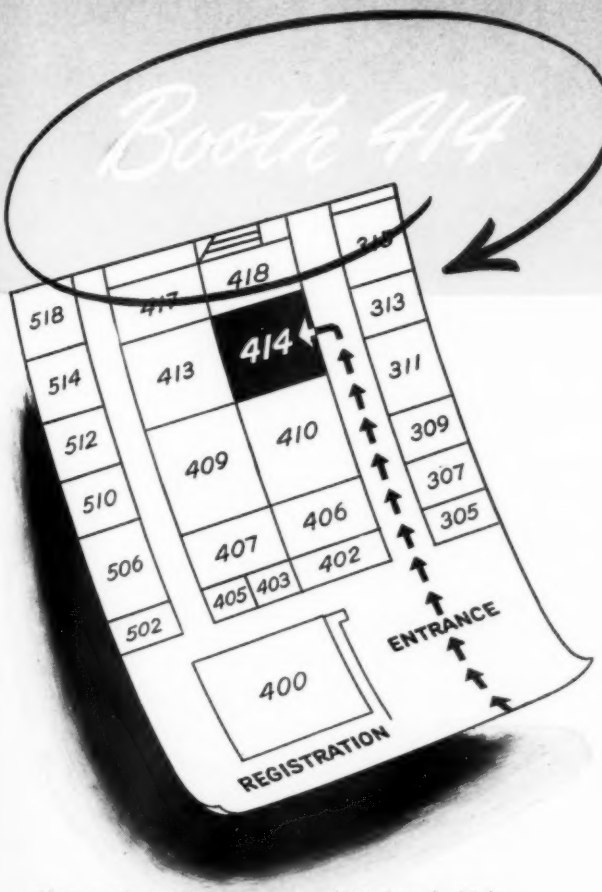
AT THE "BIG SHOW"

Duraglas Exhibit in Booth 414 at the Dairy Industries Exposition, Convention Hall, Atlantic City—October 16 to 21.

THE DURAGLAS EXHIBIT



How to find the Duraglas exhibit booth 414

A MADE-TO-ORDER OPPORTUNITY TO DISCUSS YOUR MILK PACKAGING PROBLEMS WITH US

You are cordially invited to stop in and visit with us. Relax in a friendly environment and get the latest information on Duraglas dairy containers. We'll be looking for you!

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DAIRY CONTAINERS

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Daily Retail Delivery Would Be Suicide

By WALTER B. MOLER

Upon reading the article "Group Suicide" which appeared in the August issue of the American Milk Review, Mr. Moler wrote to us suggesting that a reply might be in order. Mr. Moler operates Molers Belmont Dairy in Dayton, Ohio, consequently he writes as one who knows whereof he writes. He has appeared on a number of dairy association programs and has established himself as a man with ideas ready and able to discuss them. We are extremely happy to present Mr. Moler's thoughts on every-other-day and three-day-a-week delivery.

IF THE FLUID milk business is to continue healthy, we surely can't afford daily or six day delivery. We should think in terms of more dairy products per stop, and not more stops per week. We should think in terms of good dependable, regular service, and not in terms of excessive service.

The majority of retail customers will be satisfied and cooperate with our companies if our milk is consistently of good quality and fine flavor, providing they like our drivers, and providing we are giving them one dollar's worth of milk and service for one dollar. Daily or six day delivery would require more trucks and more men for the same volume of tonnage business, which would definitely increase the cost of our milk.

Retail trucks today cost about $2,-100.00 per truck, in comparison to about $1,300.00 pre-war. Labor both in the plant and on the route is about double pre-war. This means that if the farmer is to get his fair share, and he surely is entitled to his fair share, and the customer isn't to be overcharged, then we must eliminate all unnecessary services, including special deliveries, and deliver all we can per stop and per truck mile.

Special Deliveries

Before the war in a mid-west city, a customer *insisted* on the special delivery of one pint of milk. The delivery was made to the residence, 8 miles from the dairy. Upon checking, it was found that the maid was the only one at home at the time, and she had ordered the milk for the cat. Silly, but true.

A special delivery can be justified in a very few extreme cases, but if they are allowed to become common practice again, costs will increase, and our competitive position will be impaired. If a special delivery would require 45 minutes at $1.25 per hour, many could be very costly, and this burden would have to be borne by all customers, including the many who never ask for special privileges or special deliveries.

We can't justify it. Have each driver call in each day at his last stop to take care of the emergencies. That is more sensible.

Early Delivery a Detriment

Three A.M. starting delivery time would discourage the good salesmen we now have. Good men can find good selling jobs where they don't have to start so early. The average caliber of our men would go down.

More and better men with good educations and sales ability could be attracted to our selling jobs, and would remain satisfied if the social status of our jobs were considered higher. Earlier delivery would interfere more with their families social life, and lower the social status of these jobs further.

Our immediate problem is good working conditions, better selling, more products per customer per stop and per truck mile.

Many dairies need more *sales per customer* instead of *more customers.* Many milk sales are lost because the customer isn't being sold all she needs. A customer won't buy many extra products if she never sees her delivery man. Drivers should be encouraged to see their monthly customers at least once each month.

Grocery Store Sales

Grocery store sales have increased because of carelessness on the part of some of our delivery men and because of costly bad practices that have been prevalent at times in our retail delivery system. Unethical selling can discourage retail buying.

I think we should assume that the grocery store has and should continue to have and play an *important part* in our system of distribution of fluid milk. The grocery store's part is to sell any milk or by-products a cus-

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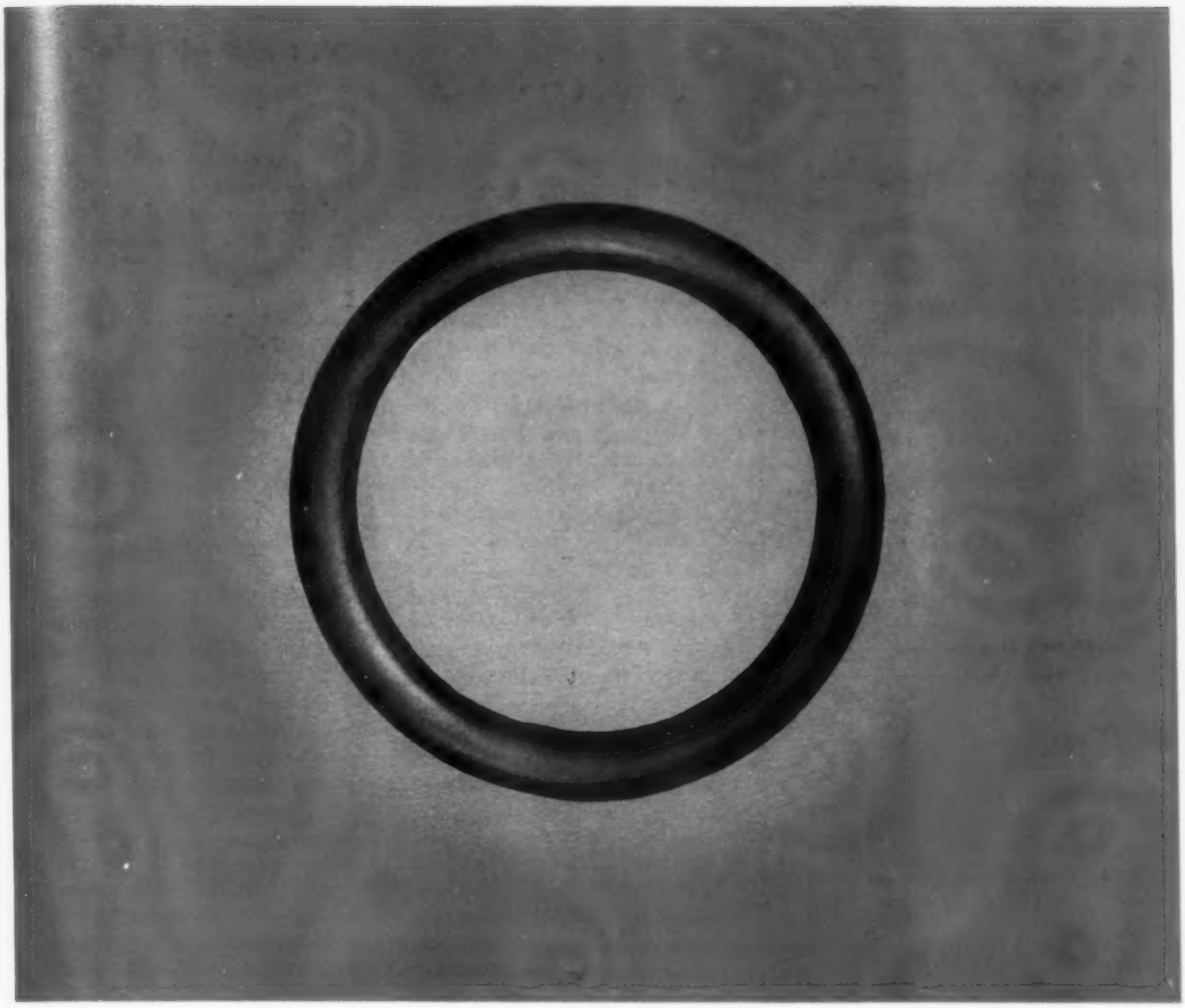

Pioneering Again

Get the great news first hand. The New WAUKESHA 100% Sanitary Pumps are made entirely of Corrosion-Resistant "Waukesha Metal" and have another new WAUKESHA pioneering development—the one-piece rotary seal.*

See these new pumps at the Dairy Industries Exposition, Atlantic City, October 16th to 21st, Booth 150.

The New WAUKESHA 100% Sanitary Positive Displacement Pumps with New Rotary Seal will be available after December 1st.

*PATENT APPLIED FOR

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WAUKESHA FOUNDRY CO.

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tomer needs extra and to take care of customers who don't like a regular milk man, or find it inconvenient to buy from a milk man. Some customers are logical grocery store customers and should be *allowed to remain so.*

Store sales grew and will continue to grow if they can sell milk of equal quality at much lower prices than retail delivery. Inefficient retail delivery and unreasonable wage demands will speed up store sales.

Problems and Practices

One of our problems previous to the war was too much (customer whim) service at retail and not enough planning and good selling. I think all salesmanagers, supervisors, routemen and owners should try sincerely to give good regular service to all customers, but be careful of any special service to special customers. We should at the same time realize that we can't *please every customer*, regardless of how hard we try.

Many times we change a good sound company policy to please one or two drivers, who in turn hope to please a few of their special customers. In many cases, checking will prove that these men asking for special concessions are our poorest salesmen.

Many times it is the same old story by the same men, saying if I could just do this, or that, I could get a lot of new business. History proves in many cases that this is an excuse for not making their calls and talking properly to the customers.

Usually too much consideration is given to a few complaints, and not enough to the many good customers who form the backbone of our business, who like our milk and are satisfied with our service. The majority of the customers like to cooperate with us and our men if we are sincere and our requests make sense.

In some cases, it would be smarter for the salesmanager to say no and lose a few customers than to try to please a certain few demanding customers who usually are lost later for a different reason. Daily we lose customers for the following reasons and consider them normal: namely, out of town moves, divorce, death, etc.

It is the dairy farmer's responsibility to produce good quality milk free of weed and feed flavors. Producers should be educated to the fact that it is too late for poor quality farm milk. They should welcome a good Grade A ordinance, as it gives the dealer a finer product to sell and helps stabilize their market. It requires them to be a milk producer and not a highly diversified farmer, producing a small amount of milk.

The producers have the responsibility of trying to produce milk more regularly. They also should be interested in cooperating with all other producers and dealers in helping to advertise the real benefits of drinking milk regularly. Cooperative industry advertising is running a poor second to many other drinks and foods. We need more powerful selling copy and slogans like, "Live longer, be more vigorous, drink milk."

It is the fluid dealer's responsibility to buy only fine flavored milk of good quality. Eliminate any producers who consistently ship off-flavored or high bacteria milk. Many small dealers make the mistake of catering to a few large producers, allowing them at times to deliver poor quality milk, which in turn hurts this same dealer's finished produce and *all milk sales.*

It is the dealers responsibility to have good equipment and see that it is operated by well trained men, so that the finished product is good and acceptable at all times.

Many thousands of dollars have been spent on the farm and in our

(Please Turn to Page 108)

PERSPICACITY PREVAILS IN PENSACOLA

By C. H. Rutledge

Willingness to talk things over and to see them from all sides was recently responsible for the solving of a situation that might have brought difficulty to the milk producers of Alabama's Baldwin County and to the commercial interests of Pensacola, Florida.

The southern part of Baldwin County, separated from Florida by Perdido Bay, has, since the opening of two paved highways and bridges, developed a dairy industry with Pensacola as its principle outlet and supply centre. The milk supply has been estimated at some 100,000 gallons yearly.

The Florida Milk Control Board has not, until this summer, clearly defined the Pensacola Milk Shed but at a hearing of Florida milk men held recently it was decided to include Santa Rosa and Escambia counties with no mention made of Baldwin. It was understood, however, that Baldwin County milk could be sold at present with the stipulation that dealers must purchase from Florida dealers so far as they could supply the demand. This left the Baldwin County dairymen in a most unhappy state of mind, with no assurance for their market if the demand should decrease or if the Florida industry should show growth. Neither were the Pensacola merchants particularly pleased. Baldwin County belongs to the Mobile trading area as well as to that of Pensacola and it is easy for trade to flow in either direction.

For a couple of weeks there was much unofficial discussion and some newspaper publicity which was not desired by either side. Meanwhile the Alabama Milk Commission was in consultation with the Florida Board and on August 16 a meeting was held in Baldwin County at which were present representatives of the boards and industry in both states. This meeting was entirely amicable and it was here clarified that the Baldwin County producers could deliver on the same basis as those in Florida, now and in the future. The fact was stressed that misunderstandings must have arisen from lack of complete information on all sides and relationships were resumed on the pleasant basis on which they have hitherto existed.

How close does your filler come to these *average* Cemac figures?

CREAM LINE MILK	135 BPM
HOMOGENIZED MILK	130 BPM
CHOCOLATE MILK	125 BPM
20% CREAM	120 BPM

NOTE: These are only *rated* capacities for Cemac 28 . . . they are exceeded in many dairies from coast to coast.

What you see on the chart above are speeds we know . . . we guarantee . . . Cemac 28 will attain. But there are many Cemac owners who are finding this filler regularly exceeds them. It's easy to realize the balanced production these dairies are getting. With all types of products coming down the line at such speeds . . . production keeps moving throughout the plant. None of the other machinery has to slow down because of the filler . . . the dairy operator gets his money worth from all his equipment throughout the daily run.

Here's real filler performance-a typical Cemac story!

Mr. Frederick A. Schroeder, Plant Superintendent of the Blue Boy Dairy, Inc., Rochester, New York, writes:

"Our Cemac 28 is as near perfection as any piece of equipment I have ever seen. As for speed, Cemac consistently exceeds its rated capacity throughout our daily run."

CROWN CORK & SEAL COMPANY
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Cemac VACUUM MILK FILLER

The Greatest Performer of them all

. . . AND REMEMBER, THE GREATEST COMBINATION OF THEM ALL IS CEMAC AND THE DACRO P-38 CAP!

Built in 2 sizes:
CEMAC 14
CEMAC 28

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Your materials are your cheese, says the author of this intensely practical article on turning out a uniform product. Select and handle them wisely.

"UNIFORMITY IN COTTAGE CHEESE"

By CALVERT R. WEBB

THE MANUFACTURING of cottage cheese is rapidly becoming one of the mainstays of the dairy industry in this country. A product, which only a few short years ago was one of the extras of a milk plant, has now become an essential product that must be made available to meet the housewife's demands.

One of the biggest problems in cottage cheese manufacturing is uniformity. One of the most important factors for controlling uniformity is the personnel in charge of the actual processing of the product. A responsible person should be appointed to take care of the cheese from pasteurization of the skim to the packaging of the finished product.

Since different types of cheese are preferred in different areas, the processor should be familiar with these preferences and know how to produce a product that will meet the demands of the maximum number of consumers. To determine this, the processor should consult the route salesman. He often knows his customers likes and dislikes and can give the cheese maker a general idea of what those customers want. Once the route salesman finds that you are interested in the customers comments, he will often come to you with them in the hope that it will help you turn out a cheese that he can offer to his customers with the assurance that it is of the best quality.

The first thing that must be done to insure uniformity is proper pasteurization of the milk to be used. Care should be taken to avoid overheating the milk. Overheating will cause a very soft curd that will not "cook out." the best temperature for low temperature long time pasteurization is between 143 and 144 degrees F. and should be held for 30 minutes. For the high temperature short time pasteurization method, 160 to 161 degrees F. is satisfactory if it is held for not more than 19 seconds.

The skim milk should be transferred to the cheese vat with as little handling as possible and should be kept covered whenever possible to prevent contamination from flies, dust and similar hazards.

Selection of Starter

The selection of the starter to be used is very important. This is where many processors make a mistake. They add the same amount of starter to the milk regardless of starter quality. Since there were probably never two starters exactly the same, it is absurd to add exactly the same amount to the milk and expect to get uniform results. Usually, 2½ to 3% of good starter is sufficient. If the quality of the starter is very low, you may have to use up to 5 percent to get a firm coagulation. To determine the amount of starter to be used, it is necessary to know its characteristics. The acidity should be approximately 0.80 percent. It should be free of whey separation, have a smooth body when agitated and should have a pleasing odor. The starter should be added when the skim reaches 70 degree F. if that temperature can be maintained. If the temperature is to be affected by outside temperatures, allowances should be made for this. The nearer 70 degree F. is maintained throughout the setting period, the better the coagulation is likely to be.

If commercial coagulator is to be used, it should be used according to the manufacturer's recommendations.

The next step which often affects uniformity is time of cutting. There are probably dozens of ways to determine when to cut cottage cheese but there is only one way to determine the best time to cut and that is by testing for titratable acidity which should be around 0.55 per cent at the time of cutting. After the curd is cut it should be allowed to set for 15 mintes for "healing" of the curd.

The curd is now ready to cook. This is a very important step in the control of uniformity. Now is the only

(Please turn to Page 77)

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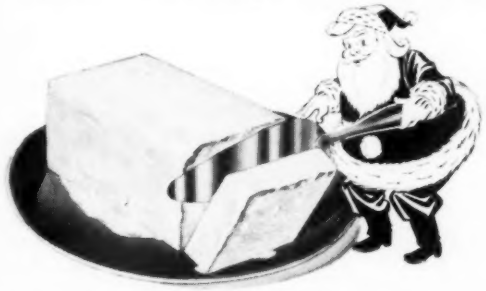
The Egg Nog Mix with a 16 year record of successful use and increased sales by discriminating Dairies and Ice Cream plants.

And It's Easy with this complete Advertising program!



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Refrigerated Warehousing Emergency Recommendations

WITH WAR TALK in the air, with the nation moving the ponderous machinery of rearmament into production, businessmen have been looking with increasing concern at the impact of this program on their businesses. In July the National Association of Refrigerated Warehouses compiled a list of emergency recommendations for their industry. Inasmuch as this industry is closely related to the dairy industry and inasmuch as the recommendations contain much that is applicable to other enterprises we print the recommendations below.

Manpower, repair and maintenance, space, plant defense and protection, provision for orderly plant operation in emergency, government restrictions, allocations, etc., and industry coordination are the main subject heads under which the recommendations are presented. The recommendations were compiled by an Emergency Plans Committee and were issued from the association's headquarters in Washington.

1. Manpower:
   a. Mechanize wherever possible.
   b. Use available labor as efficiently as possible.
   c. Impress upon local draft boards and government agencies concerned with manpower essential nature of cold storage work, necessity for maintaining adequate working space. Learn draft regulations, exemptions, etc.
   d. Physical examinations for all employees, assign each work he can do well while at same time utilizing his full physical capacities, help those with remedial difficulties to get necessary treatments.
   e. Impress constantly upon employees essential nature of the work they are doing, discourage shifting to other industries.
   f. Adequate training and safety program in operation.
2. Repair and Maintenance:
   a. Check plant and equipment for needed repair and maintenance work, do work now while parts and labor available, get everything in maximum condition. Purchase new equipment where needed.
   b. Check present repair and maintenance program. Is it adequate to maintain maximum operations over extended period (several years). Set up and operate program to do this.
   c. Without hoarding or purchasing excessive quantities, do you have adequate stock of supplies and spare parts, etc.
   d. Fire fighting equipment in adequate quantity and good condition to meet all emergencies.
3. Space:
   a. If you are considering adding space—now might be good time.
   b. Study and put into effect possible ways and means of making more effective use of space available.
   c. Establish program to keep additional government agencies advised of space available, type and location, etc. Have complete information available at all times for association headquarters.

SEE FOR YOURSELF!

Come into booth No. 237.

DAIRY INDUSTRIES' EXPOSITION in ATLANTIC CITY.
See *Baker's Model C*, wooden bottom case for paper bottle containers . . . the case that is *super-constructed* to withstand conveyor *shock* . . . the case that is built for *economy*.

BAKER BOX A DIVISION OF CONNOHIO INC WORCESTER 8, MASS.

The New Improved HomoVitor

SANITARY HOMOGENIZER

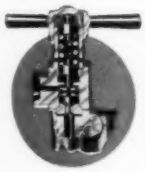
SAVES NEARLY 40% FLOOR SPACE

Brand new . . . and it will save your valuable floor space! The improved HomoVitors in 300-400 and 500 sizes measure only 42" x 34" requiring only about 60% as much floor area as previous models of the same capacity (63½" x 34"). New 300-400-500 models embody all the best features of HomoVitor's field and laboratory tested design.

Over 75 years of pump manufacturing experience are your guarantee of continuous, economical homogenization with the HomoVitor.

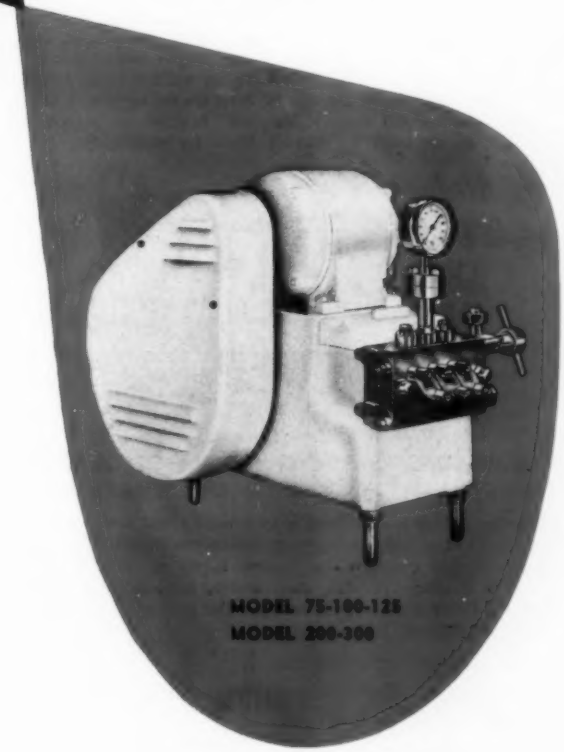
American-Marsh HomoVitors are the product of years of specialized experience, plus sound engineering and research. Features include smooth, streamlined, self-draining exterior surfaces for easy cleaning. Adjustable chrome finished legs and no exposed threads, provide easy adjustment to uneven floors and allow sufficient clearance for cleaning underneath.

Cover and head gaskets are O-ring type and single V-ring packings are provided for the plungers. The rugged crankshaft is mounted on heavy-duty roller bearings. All cylinder passages extend entirely through, eliminating dead ends, so that every bit of the interior can be easily and thoroughly cleaned. There are no internal threads and 18-8 stainless steel is used on all parts in contact with the fluid handled.



PHASE-FLO VALVE

The patented Phase-Flo Valve is the product of advanced engineering and exhaustive research. Easily adjusted for desired pressure, the Phase-Flo Valve automatically provides THREE DISTINCT PHASES of homogenization to assure perfect break-up, dispersion and control of viscosity. Designed with a minimum number of working parts, it is easily taken apart for cleaning and sterilizing.



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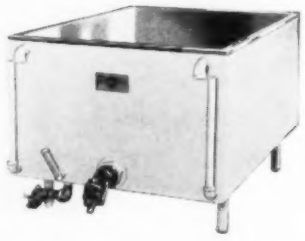
TENDER, UNIFORM, CONTROLLED HEAT for IMPROVED CHEESE of all types

A modern, exceedingly efficient vat for all cheese, but especially soft curd cheeses. Holds precise setting temperature, accurately controls cooking for uniform, soft, sweet curd of finer flavor and aroma. Provides for rapid and flexible heating and cooling. No "off" batches, no uncooked curd, no hot spots, no sticking. Write for Bulletin 7H.

Midget

COTTAGE CHEESE VAT

Especially adaptable to small dairy plants and laboratory use



MAINTAINS A HIGH STANDARD OF QUALITY EVEN IN SMALL-BATCH CHEESEMAKING

Bottom slopes toward large gate valve for fast drainage but is flat and at right angles to accommodate curd knife. Variable height overflow for various levels of milk. No. 4 finish 20-gauge stainless steel inside, aluminum or white enamel outside. Hot water thermometer standard equipment. Ask for Bulletin 7E.

QUALITY PROVED KUSEL DAIRY EQUIPMENT

KUSEL DAIRY EQUIPMENT COMPANY

Watertown, Wis.

Cheese Vats of all kinds, Receiving Vats, Regenerative Pasteurizers, Weigh Cans, Holding Tanks, Can Washers, Forker and Agitators, Cheese Presses, Starter Cans, Curd Knives, and other special equipment. Also jobbers of complete line of Cheese Factory supplies.

d. Give preferential treatment to defense storage needs. By all means, give them regular prompt service.

e. Demonstrate by industry cooperation and efficient service that *there is no need for government to construct added space—use convincing facts and figures.*

4. Plant Defense and Protection:
   a. Cooperate with local civil defense authorities, know civil defense program.
   b. Adequate plant inspections and guards, other security measures to protect against possible sabotage.
   c. Procedure to cope with possible enemy action such as air attacks, incendiary bombs, etc., fire drills, first aide, every man assigned specific duties and station, be sure each understands operation of equipment for which he is responsible.
   d. Provision for orderly plant personnel evacuation if necessary.

5. Provision for orderly plant operations in emergency:
   a. Additional sources of power, auxiliary equipment, etc.
   b. Alternate transportation arrangements—truck facilities, railroad sidings, etc.
   c. Emergency repair, damage control techniques, etc., training.
   d. Are all valves, pipes, etc., plainly identified as to purpose, contents, direction of flow, etc. (Strangers might have to be called upon.)
   e. Alternate sources of supplies.
   f. Alternate building availability.

6. Government Restrictions, Allocations, etc.:
   a. Working through industry committees, NARW, etc., keep government bureaus and agencies concerned informed as to vital functions of industry and its needs—educate authorities to need for highest possible priorities, etc., as these are assigned.
   b. Close contact with local government and military authorities constantly.

7. Industry Coordination:
   a. Your regional chapter is the proper "funnelling" agency between you and your Washington office. Keep in close contact with chapter officials and act quickly if and when requested by them.

The above was compiled by the Emergency Plans Committee of the National Association of Refrigerated Warehouses in meeting at Washington, D. C., July, 1950.

V. O. APPEL, *Chairman*, Chicago
G. D. ALLMAN, Chicago
HERBERT FARNSWORTH, Boston
W. C. HUDLOW, JR., Chattanooga
J. P. JOHNSON, Washington, D. C.
EDWIN M. NEYLON, St. Louis
ALLEN RUSHTON, Birmingham
M. W. YOUNG, San Francisco

Issued from NARW Headquarters
Tower Building, Washington, D. C.

XUM

COTTAGE CHEESE

(Continued from Page 72)

time that the whey can be drawn from the inside of the curd. A slow, moderate heat should be applied to accomplish this. If heat is applied at a rapid rate, the curd will be sealed and the whey will be on the inside. This will result in a soft watery cheese of low keeping quality. It should take about 2½ hours to heat the curd up to 100 degree F. The remainder of the cooking period can often be completed in 30 minutes with frequent stirring.

After the cooking is completed and the whey is drawn off it is time to wash the curd. For this ordinary well or tap water is used with no heat applied. If the final cooking temperature is under 120 degree F. usually one washing is all that is needed. Cottage cheese is like our soil, too much water running over it takes away a portion of its goodness. If the final cooking temperature is more than 120 degrees F., another washing may be necessary to chill the curd sufficiently for proper storage.

After the washing is completed and the curd is trenched, it is allowed to drain until only a dripping stream is coming from the vat. Now is the time to salt the curd. After salt has been carefully mixed in, the cheese is ready for cold storage. Perhaps the best container to use for storage is the ordinary 50 lb. lard can. These cans store easily and reduce the handling of the cheese to a minimum. The cheese should be stored for at least twelve hours before creaming.

The creaming of the cheese is also an important step in uniformity control. A fresh cream, preferably homogenized, should be used. It should have a butterfat content of from 12 percent to 18 percent. The firmness of the curd will determine the amount of cream to be used. Enough should be used so there is some free cream on top of the cheese at the time of delivery.

Uniformity is a big word. A big job in any food processing plant, don't be afraid to experiment; there are as many ways to make good cottage cheese as there are people who make it. Your materials are your cheese. Select and handle them wisely.

ABOUT THE AUTHOR

Calvert Webb is a practical plant man. For the past five years he has worked in Columbus, Ohio., at the plant of Gabel Dairy Company. His activities are not confined to cottage cheese. Although, he is something of an authority in that particular field, he is at home in any of the varied operations that the processing of milk in a modern plant demands.

Mr. Webb is married and has three children. He writes, "It takes two pounds of cottage cheese to feed us." Such an endorsement of one's efforts by the people who count the most is a heady reward. We hope to hear more from Mr. Webb in future issues of this magazine.

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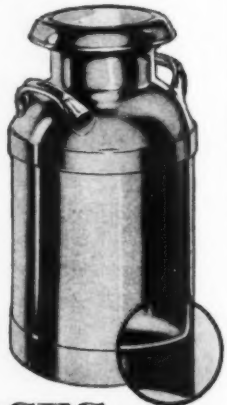
SEE US — FOR FOOD CANS, STRAINERS, STIRRERS. Plus receptacles and other items for the modern dairy. We'll have them on display in Exhibition Booth 533 at the Dairy Industries Exposition, Convention Hall, Atlantic City. Drop in and see us, won't you?



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ARRANGE SUPERB MIF PROGRAM

Three Day Convention Will Have Galaxy of Brilliant Speakers on Wide Range of Subjects

Six sections, laboratory, plant, milk supplies, motor vehicles, accounting, sales and advertising plus general sessions make up the comprehensive program arranged by the Milk Industry Foundation for the annual convention. The meetings will be held in Atlantic City, October 16, 17, and 18 at the same time the great Dairy Industries Exposition is in progress. Foundation headquarters will be located in the Board Walk's famous Chalfonte-Haddon Hall hotel.

Outstanding speakers, recognized authorities in their fields, will discuss some fifty subjects that are in the forefront of current industry thinking. The list of speakers is composed of men from industry, scientists from college and corporation, executives, sales specialists, and practical plant engineers. Their topics range all the way from Lipase in Dairy Products with Special Reference to Its Effect on Flavors and Control, by Dr. B. L. Herrington of Cornell to Correct Choice and Use of Engine and Chasis Lubricants by J. W. Lane, Manager, Automotive Division, Socony-Vacuum Oil Company.

An "Awards Dinner" Monday evening and a joint general session Wednesday morning with the International Association of Ice Cream Manufacturers are other features of the program that have been arranged. The complete tentative program is printed below.

MONDAY, OCTOBER 16, 1950

General Session

9:30 Film: "Joint Exercise Miki"

9:55 Invocation

10:00 Welcome to Atlantic City
F. Bruce Baldwin, Jr., Baldwin Dairies, Philadelphia

10:05 Sharing Ideas Multiplies Ideas
T. Kline Hamilton, President, Milk Industry Foundation

10:40 Here's Help
Owen Richards, American Dairy Association, Chicago

11:20 Our Future Around the World
Henry J. Taylor, noted author, journalist, and economist

Laboratory Section

2:00 Processes for Preserving Fluid and Concentrated Milks and Their Potentialities

a. Frozen Milk Concentrates

b. Sterilized Milks and Creams
Dr. B. H. Webb, *Bureau of Dairy Industry, U. S. Department of Agriculture, Washington, D. C.*

3:00 Single Solution Detergent Method for Determining Butterfat in Milk
Dr. Philip Schain, *Halloran Veterans Hospital, Staten Island, N. Y.*

Joint with Plant Section

3:45 Possibilities in Use of Permanent Sanitary Piping in Milk Plants
G. H. Brockmeyer, *Arden Farms Company, Los Angeles*

2:00 Movie–Pipe Washing and Cleaning
John R. Perry, *National Dairy Products Co., Inc., New York City*

2:30 New Developments in Palletizing and Casing as Applied to Handling Milk
a. Minimum Standards for Pallets
b. New Wood Preservatives
c. Other Developments
C. T. Cackley, *National Wooden Box Association, Washington, D. C.*

3:00 Colored Milk Bottles and Their Place in Milk Distribution
Dr. D. V. Josephson, *Pennsylvania State College, State College, Pa.*

Joint with Laboratory Section

3:45 Possibilities in Use of Permanent Sanitary Piping in Milk Plants
G. A. Brockmeyer, *Arden Farms Company, Los Angeles*

Milk Supplies Section

2:00 How to Develop Good Produce-Distributor Relations
Garvin W. McKerrow, *Golden Guernsey Dairy Co-op., Milwaukee*

2:45 An Efficient Field Program and the Use of Practical Records for Field Servicemen
Prof. Everett Wallenfelt, *University of Wisconsin, Madison*

3:30 Progress Report on Artificial Breeding
Philip I. Higley, *Wisconsin Scientific Breeding Institute, Madison*

Motor Vehicle Section

2:00 Moving Picture: Safe as You Think

2:15 The Effect of Accidents on Vehicle Costs
A. E. Neyhart, *Pennsylvania State College, State College, Pa.*

3:00 The Driver's contribution Towards Reduced Automotive Costs
a. Methods of Reporting Faulty Conditions
b. Abuse of Equipments
c. Excessive Idling
d. How to Drive a Truck (starts, stops, etc.)
Robert I. Gayley, *Supplee-Wills-Jones Milk Company, Philadelphia*

3:45 Correct Choice and Use of Engine and Chassis Lubricants
J. W. Lane, *Manager, Automotive Division, Socony-Vacuum Oil Company, New York City*

Accounting Section

2:00 Accumulating Costs Pertinent to Operations–From Control Viewpoint
Fred V. Gardner, *Fred V. Gardner and Associates, Milwaukee*

3:00 Effective Methods of Butterfat Control
a. Kinds of Records
b. Training Plant Personnel to Keep Accurate Records
N. V. Bellenoit, *H. P. Hood & Sons, Boston*

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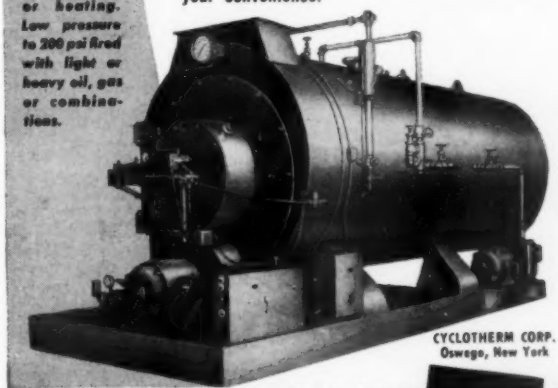

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Sales and Advertising Section

2:00 Moving Picture: Make Mine Freedom

2:15 Effective Use of Letters
- a. New Customers
- b. Prospective Customers
- c. Quit Customers
- d. Special Situations

H. N. Snyder, *Penn Dairies, York, Pa.*

3:00 SYMPOSIUM: By-Products Sales
- a. Cottage Cheese
- b. Buttermilk
- c. Sour Cream
- d. Cream
- e. Half & Half
- f. Ice Cream
- g. Chocolate Milk
- h. How Many Products Should Be Sold on Routes?

B. D. Brown, *Luick Dairy Company, Milwaukee*
A. J. Claxton, *Meadow Gold Dairies, Pittsburgh*
Dr. H. E. Kimball, *H. P. Hood & Sons, Boston*
T. D. Lewis, *Arden Farms Co., Los Angeles*
Cameron Peck, *Bowman Dairy Co., Chicago*

TUESDAY

General Session

9:15 Film: Water-Fountain of Life

9:40 Reports of Committees
Report of Treasurer
Election of Directors

10:10 The Dairy Industry In the British Isles and Europe
Alf R. Nielsen, *Alfar Creamery Co., West Palm Beach, Florida*

10:45 Problems To Be Faced by The Milk Industry in The Event of War

11:20 Can We Repeal the Laws of Economics?

2:00 The Physiology and Biochemistry of Milk Production
Dr. W. E. Petersen, *University of Minnesota, St. Paul*

2:45 Nutritional Value of Milk and Dairy Products
Dr. W. E. Krauss, *Ohio Agricultural Experiment Station, Wooster*

3:30 Significance and Control of Coliform Organisms in Pasteurized Products
Dr. H. Brooks Naylor, *Cornell University, Ithaca*

Plant Section

2:00 Moving Picture: Maintenance Magic for Bottlers

2:15 Plant Problems With Homogenized Milk
- a. Utilization of Returns
- b. Elimination of the "Ring"
- c. Prevention of Crawling
- d. Control of Foam

Dr. G. M. Trout, *Michigan State College, East Lansing*

3:00 A Practical Approach to Good Employee Management Relations
R. G. Nugent, *General Ice Cream Corp., Schenectady*

3:45 Tailoring Refrigeration Facilities to Plant Requirements
John K. Anderson, *Carnation Company, Los Angeles*

XUM

Milk Supplies Section

2:00 New Developments in Milk Buying Plans
Herbert Forest, *Dairy Branch, P & MA, U. S. Department of Agriculture, Washington*

2:45 Practical Aspects of Uniform Quality Standards for Milk, Milk Products, and Milk Supply
Dr. J. C. Olsen, Jr., *University of Minnesota, St. Paul*

3:30 The Effect on Cultured Milk Products of Treating Dairy Cows with Penicillin and the Use of Quaternary Compounds for Cleaning
Prof. W. A. Krienke, *University of Forida, Gainesville*

Motor Vehicles Section

2:00 Two Places to Save Money

a. By Proper Maintenance of Automotive Engine Cooling Systems
A. M. Fischer and F. A. Gundlach, *National Carbon Division, Union Carbide and Carbon Corp., New York City*

b. By Proper Selection and Care of Tires
George M. Jenkins, *Firestone Tire and Rubber Company, Akron*

Sales and Advertising

2:00 The Value of a Route Break-even Point to Control Costs
Earl Charde, *The Borden Company, Toronto, Ontario*

2:45 SYMPOSIUM: Our Route Accounting Methods Need Streamlining

a. Why
William Ernst, *Verifine Dairy Products Company, Sheboygan, Wis.*

b. Loading and Settlement Reports
Guy Sitler, *Meadow Gold Dairies, Inc., Pittsburgh*

c. Retail Route Books and Customer Statements
E. J. Lutes, *Pure Milk Company, Marion, Ind.*

d. Wholesale Billing
Donald A. Hall, *Brock-Hall Dairy Company, Hamden, Conn.*

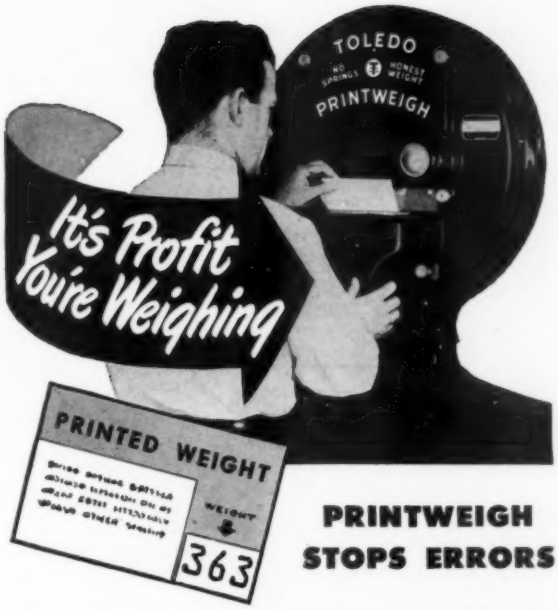
3:45 Open Forum

Sales and Advertising Section

2:00 Elixir of Life
Robert M. Engle, *Diamond Milk Products, Inc., Columbus, O.*

2:45 What I Expect of My Salesmanager

3:30 INFORMATION EXCHANGE: Route Selling and Operating Problems
Fels Matheny, *Carnation Co., Los Angeles*
Rex K. Smith, *Foremost Dairies, Inc., Jacksonville, Fla.*
J. R. Parks, *H. E. Koontz Creamery, Baltimore*



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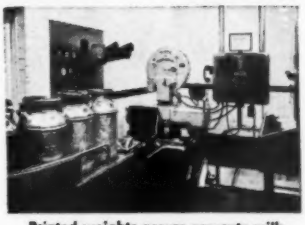

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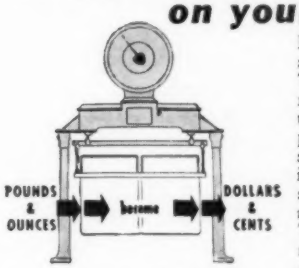

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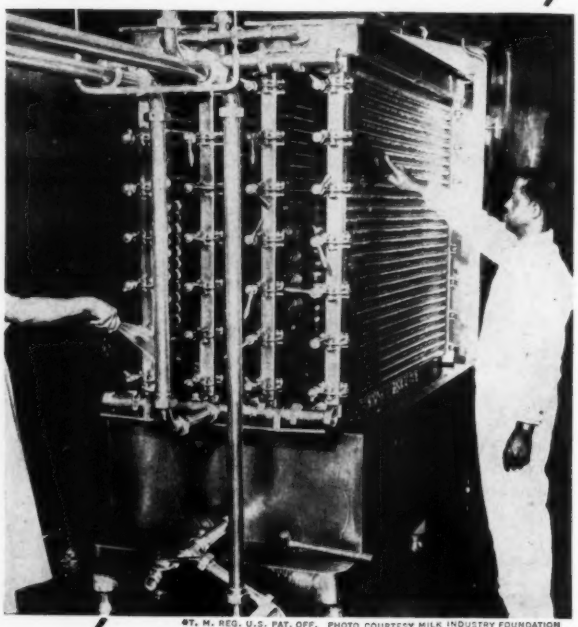

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- **AWAY WITH CALCIUM CURD!**
- **AWAY WITH GERMS!**

You don't have to use a corrosive cleaning compound to kill germs while you clean! Whistlclean has the highest alkaline power you can use safely —yet is non-corrosive, self activating, economical! Be *sure* of your sanitation . . . use Whistlclean*—the 'buffered action' detergent—for cleaning *everything* in your plant or dairy! Write for facts today!

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WEDNESDAY

Joint General Session

9:30 Remarks of Presidents

9:40 Sanitary Milk and Ice Cream Legislation in the United States
Dr. A. C. Dahlberg, *Project Director, Milk Quality and Regulations, National Research Council*

10:00 Newer Forms of Education
Mrs. Emily Bennett, *Director, Louisville Dairy Council*

Symposium: Human Relations In Industry

10:30 Labor Leaders and Society
A. A. Imberman, *Partner, Imberman & De Forest, Chicago*

11:15 Communications in Labor Management
Charles T. Estes, *Special Assistant to the Director, Federal Mediation and Conciliation Service, Washington, D. C.*

Laboratory Section

2:00 Comparative Accuracy of Dietert Tester
F. J. Doan, *Pennsylvania State College, State College, Pa.*

2:45 Lipase in Dairy Products with Special Reference to Its Effect on Flavors and Control
Dr. B. L. Herrington, *Cornell University, Ithaca*

3:30 Effect of Bacteriophage and Antibiotics on Starters and Cottage Cheese
Dr. F. E. Nelson, *Iowa State College, Ames*

Plant Section

2:00 Report on Sanitary Standards Subcommittee—DIC
T. J. Kullman, *Bowman Dairy Company, Chicago*

2:15 What Is New in Dairy Waste Disposal?
William Dean, *Bowman Dairy Company, Chicago*

2:30 Air Agitation of Milk and Milk Products
a. What Products Can Be Agitated With Air?
b. Methods of Air Distribution and Types of Compressors
c. Relative Costs of Air and Mechanical Agitation
C. J. Austin, *Supplee-Wills-Jones Milk Company, Philadelphia*

3:15 Use of Cold Wall Milk Storage Tanks, as Compared with Direct Expansion Milk Coolers in Receiving Stations
a. Economics—Initial Investment—Operating Costs
b. Advantage of Each
James N. Follett, *Otto Milk Company, Pittsburgh*

3:45 Open Forum Discussion of Clarifying and Separating
a. Cold Clarification of Milk and Cream
George C. Urian, *Sharpless Corp., Philadelphia*
b. Cold Milk Separation
G. A. Houran, *DeLaval Separator Co., New York City*

Milk Supplies Section

2:00 Moving Picture: Twelve Months Green

2:15 The Effect of Soil Fertilization to Include Trace Elements on Milk Production Costs
Forest Borders, *Bowling Green, Ky.*

3:00 New Processes for Milk Production
Dr. Roy Graves, *Wood-Jon Farm, Indiana*

3:45 The Milk Supply Future
Francis P. Willits, Jr., *Borden's Farm Products, New York City*

Motor Vehicle Section

2:00 SYMPOSIUM: Refrigerating Wholesale and Retail Trucks
a. Mechanical Methods
E. L. White, *White Ice Cream & Milk Company, Wilmington, North Carolina*
b. Wet Ice—Methods of Using
Talbert N. Damewood, *Thompson's Dairy, Inc., Washington*

3:30 INFORMATION EXCHANGE: Body Design and Construction
Insulation, Rust Prevention, Composite Bodies vs. All Steel, Aluminum Bodies, Treating Wood, Body and Chassis vs. Integral Units, Undercoating, Accessibility of Load.
Clarence Hoke, *Discussion Leader, The Borden Company, Chicago*
J. B. Carry, *Chestnut Farms-Chevy Chase Dairy, Washington*
T. A. Drescher, *Borden's Farm Products, New York City*
N. P. Martin, *Bowman Dairy Company, Chicago*

Accounting Section

9:30 A.M. The M.I.F. Accounting System
The presentation of the methods of the Manual, the simplicity of installation and its contribution to efficient operations.
E. B. McClain, *Accounting Consultant to M.I.F.*

2:00 A Simple Plan to Help Each Other Analyze Our Costs
a. Management Viewpoint
V. J. Ashbaugh, *Durham Dairy Products, Incorporated, Durham, N. C.*
b. How It Is Accomplished
E. B. McClain, *Accounting Consultant to M.I.F., Chicago*

3:00 Use of Operating Ratios to Control Costs
L. C. Thomsen, *University of Wisconsin, Madison*

Sales and Advertising Section

2:00 SYMPOSIUM: What We Are Doing in Public Relations
Daniel Cavanagh, *Golden State Co., San Francisco*
E. L. Cavitt, *Stark County Milk Dealers Assn., Canton*
George G. Diffenback, *Abbotts Dairies, Inc., Philadelphia*
J. Gordon Roberts, *Roberts Dairy Co., Omaha*

3:30 Advertising Information Exchange: Bring your Questions on Television, Route Circulars, Newspaper Ads, Bill Boards, etc. Stump the Experts.
John Dobson, *Borden's Farm Products, New York City*
Edwin S. Elwell, Jr., *Northland Milk & Ice Cream Co., Minneapolis*
John P. Lancey, *Supplee-Wills-Jones Milk Co., Philadelphia*
Walter Moler, *Molers' Belmont Dairy, Dayton*

QUIRK *Leader*
MILK CRATES
END BOTTLE BREAKAGE
REDUCE HANDLING COSTS

- Select hard wood (sides and end)
- Sturdy metal partitions
- Galvanized frame braces
- Convenient hand holes
- Embossed corners for easy stacking
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WELDED PARTITIONS SEPARATE BOTTLES — OFFER MAXIMUM PROTECTION

Costly bottle breakage in milk crates is sharply reduced when Quirk LEADER hard wood, round wire crates are used. Structural rigidity of these units effectively resists shock impacts capable of breaking bottles delivered in ordinary crates.

Welded wire, fixed partitions prevent bottles from bumping and breaking one another. This eliminates inconvenience caused by broken glass and spilled milk, as well as time wasted in clean-up.

You are cordially invited to visit Booth 517 where the complete line of Quirk Cold Seal Cabinets and Quirk Double-Headed Milk Crates are on display. Courteous representatives will gladly give you complete information.

QUIRK CRATE & CABINET CO.
3405 E. LAYTON AVENUE CUDAHY, WISCONSIN

NEW JERSEY SHAKEDOWN

(Continued from Page 16)

cans of milk. It meant the loss of about a thousand dollars a day. When he was advised to retain Miller he was not particularly suspicious although the fee did appear to be a little on the high side. Miller was retained because it was the usual practice to retain a lawyer in such cases. It was also obvious that if the lawyer could persuade the authorities to reinstate Schoharie, even if it required $7,500 worth of persuasion, the expense would be less than to lose a thousand dollars a day for two or three weeks. It was the extreme rapidity with which the case was settled and Schoharie reinstated that raised the "bribe" suspicion in Dr. Shaul's mind and prompted him to present the situation to the Attorney General.

Once the Schoharie case was made public the Health Department was on the hot seat. A hearing was called to consider the Schoharie case and determine whether or not they should continue to be allowed to send milk to Newark. The hearing was a stormy affair marked by occasional emotional outbursts. The Schoharie people went into the hearing, without much hope that the reinstatement would be sustained. They were right.

At the hearing Dr. Shaul told his well known story. Schoharie was represented at the hearing by Edmund F. Cooke of Buffalo, an attorney. Cooke charged that the statements made by the inspectors with respect to Schoharie producers were "absolutely false." He said that he wanted the chance to bring many of the accused farmers in to testify. The inspectors had reported that an inspection of forty-eight Schoharie farms had shown twenty-four operating in violation of city regulations, eleven borderline cases and eleven satisfactory farms.

Schoharie's Chief Inspector Joseph Ryan had apparently accompanied the inspectors on their tour of the farms. He read a long statement giving his version of what happened during the course of the inspection. The statement alleged that Powell, one of the inspectors, had made sarcastic remarks during the inspection and that standard methods of procedure were not always followed. One gets the impression from Ryan's testimony that both Powell and Tatz were in a rather touchy frame of mind that day. Perhaps Ryan was too, there is no way of knowing. At any rate Ryan tells of a tirade delivered by Tatz against the State of New Jersey in which he declared that he "went out of his head whenever he heard it mentioned." There were disputes on the methods of inspection between Ryan and Tatz which ended up with Tatz declaring he would not inspect any more dairies with Ryan and that Ryan was very hard to get along with.

Attorney Cooke tried in vain to get permission to have the producers in

"Acres of Diamonds"

SOME OF YOU OLD TIMERS may remember Russell Conwell's famous Chataqua lecture "Acres of Diamonds." The substance of the discourse was the tale of a man who dreamed of great wealth and roamed the world looking for it only to find that in his own back yard in his native South Africa was the richest deposit of diamonds known to man.

Practically every business enterprise in the nation is in search of markets and more markets. Great sums of money are spent in advertising and market research in order to uncover those markets. More often than not the markets turn out to be in our own back yards.

A month or two ago we published an article entitled "Where Are the Milk Drinkers." The article pointed out that the per capita consumption of milk in this country has been falling for several years. It has been falling in spite of the excellent job of education that numerous agencies have been doing with the public. The article questioned whether the industry has been doing enough to check this decline in consumption.

From the offices of the Cherry-Burrell Corporation in Chicago comes this account of an experience in selling milk.

"Here in this office we have about 125 people, and twice a day they are given a 15 minute rest period and permitted to go to a room where they may purchase coffee, coke or ice cream cups. A number of the folks had asked for milk, but we weren't able to interest the milk dealers in providing us with an automatic machine. Milk could only be had on specific order, and while a few did order milk ahead, many of those who wanted it did not do so. In other words, we made it hard to get.

"Our office manager was requested to try again and see if he couldn't get an automatic vending machine and was given the name of an individual at one of our larger companies, who was in charge of that type of sale. This gentleman contacted our office manager and asked how many people we had. After being told, his reply was that, according to their records, we didn't have enough people to support a machine. We asked how many bottles of milk had to be sold in order to support such a machine, and we were told at least 40; but according to their calculations it would be quite below that number.

"We then intimated that possibly the company would be willing to underwrite the loss if they would put a machine in. To make a long story short, a machine has been put in; and instead of running 25 or 30 bottles as was estimated by this milk company, or even 40 which was their break even point, we have consistently averaged better than 70 bottles per day. This in spite of the fact—milk costs a dime and coffee only 5c.

"Now, what's this all about, and what's the point? The point is simply this—we have been wondering, 'Where are the milk drinkers?' The milk drinkers, in many cases, are right under our nose, but we've been making it tough for them to get milk. Maybe we as an industry should think it over and perhaps revise some of our figures, and follow the example of the good merchandisers such as the soft drink people and others with whom we compete for the consumer's dollar and make it easier for them to get milk. Then perhaps we wouldn't have to ask the question, 'Where are the milk drinkers?' "

XUM

question testify. "We don't feel that we will have our day in court," he said, "unless the farmers are permitted to tell their side of the story. This is a serious matter of life and death to 496 farmers and dairies and it means life and health to the people of Newark."

In spite of the spirited defense put up by the cooperative, the Health Department sustained the reports of the inspectors. Schoharie was once again suspended.

Prosecutor Minard was criticized for his investigation, particularly by the New Jersey CIO Council. The Council described the probe as a "witch hunt." The newspapers, however, supported the prosecutor in his work. In an editorial on July 31 the *Newark Evening News* declared, "While Mr. Minard was making these disclosures the Newark Health Department was conducting a hearing to determine whether the Schoharie Co-operative should be suspended again. A re-inspection of the dairies has been ordered by Director Moran. Health inspectors again charged that some of the dairies were operating under unsanitary conditions. The co-operative insists the charges are 'absolutely false.' The State Health Department, which also makes careful inspections, has not joined in Newark's criticism. Under the circumstances, the rehearing has a very fishy smell and the resultant suspension of the co-operative looks like reprisal for what its officers told the Prosecutor.

"Mr. Moran will find it hard to counteract the facts in the hands of the Prosecutor. His department is clearly under direct fire and he ought to cooperate in bringing out the truth."

The tempo of the case quickened when, on August 15, Richard F. Powell, a Newark milk inspector and the man who had telephoned Dr. Shaul advising him of Schoharie's reinstatement, refused to appear before Prosecutor Mnard for questioning. Powell's superior, Public Affairs Director Moran, when informed of Powell's refusal called him on the telephone and asked him to comply with Minard's request. Again Powell refused, declaring that his attorney had advised him not to go.

Powell was one of the inspectors who made the reinspection that lead to the second Schoharie suspension. An informal check with the city's legal department revealed that Mr. Moran had no authority to compel Powell to submit to questioning by Prosecutor Minard. However, Powell's refusal certainly gave substance to the feeling that something was wrong.

A Grand Jury was convened in Newark early in September. As this is written the evidence is being presented and the feeling is that indictments will be handed down. It must be emphasized that indictments do not carry with them either guilt or innocence. It must further be emphasized that to date nothing of a criminal or conspiratorial nature has been proved or disproved. One cannot read the record so far, however, without asking the question, without wondering, for example why Miller turned so much of his alleged fee over to Eisenstein, why Powell refused to testify, why Schoharie was reinstated so promptly after the payment had been made. The affair has, as the *Newark Evening News* observed, "a very fishy smell."

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Sanitary Valves and Fittings by SPECIALTY, whether stainless steel or nickel alloy, have always been known for their endurance — high perfection. They meet all the sanitary code requirements. Every thread and other detail is precision machined and highly polished. Take-down and clean-up time is easy—quick.
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Specialty Brass also is your source for Sanitary Fitting Tools and Accessories. Write for literature.
Sanitary Milk-Handling Equipment is a SPECIALTY business
SPECIALTY BRASS COMPANY
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Specializing in equipment for the dairy, food, beverage and chemical industries.

INTERSTATE MILK

(Continued from Page 10)

state commerce on intrastate marketing is that under the Federal Constitution interstate commerce is within the exclusive control of the Federal Government and that feature must be part of any situation in which these milk orders are authorized.

Some years ago in Illinois an action was brought by the United States against the Wrightwood Dairy Company for enforcement of an order of this character in the Chicago marketing area. This dairy company purchased its daily supply of milk from approximately seventy producers, all located within the state. The milk was processed at a Chicago plant and none of the milk was mingled with any interstate milk but sold and distributed entirely within the state.

The lower court held the business of this dairy company to be intrastate and not subject to these marketing orders since the milk it handled was not in the current of interstate and foreign commerce. This decision was affirmed by the Federal Circuit Court of Appeals and from that court appealed to the United States Supreme Court.

The decision of that court made in 1942 on the opinion of Chief Justice Stone sets the boundary for these activities of the Secretary of Agriculture in the regulation of the milk traffic within the states.

The lower court in this case had made the comment that depriving the Secretary of Agriculture of the authority to make these orders in the regulation of intrastate milk might have the result that the morale of the market would disintegrate and the attempt at the solution of the milk marketing problem by the national government would fail.

The power of the Federal Government and of Congress under the Interstate Commerce clause of the Federal Constitution, said the Supreme Court, is not restricted merely to the regulation of commerce between the states. It extends, as it does in this case, to intrastate activities

"It appears, gentlemen, that we'll have to adopt our competitor's tactics, and turn out a reliable product"

COPYRIGHT 1949 CARTOONS-OF-THE-MONTH

LARGE NEW PRODUCTS LIST

Seventy-eight New Items In Latest List of Displays At Great Dairy Industries Exposition

Detailed word of the parade of new products which will be marshalled at the 1950 Dairy Industries Exposition (Atlantic City, October 16-21) continue to pour into the Washington offices of the Dairy Industries Supply Association, sponsors of this world-famous industrial exhibit, as the 350 exhibting companies submit their display plans for the advance approval by the Show's committees that is required.

Supplementing preliminary list, released by DISA a few weeks ago, of products and services which are to crowd the seven acres of the huge Exposition, the Association has now made public additional highlights of its members' display preparations. This final advance bulletining of what is to be new in the displays continues to emphasize the wide range of products utilized by the dairy industries and the broad scope of modern industrial development concerned with facilitating the processing and distribution of milk and its products.

In the 1950 dairy industry parade of progress will be found:

Compact new butter molding and wrapping machine.

Running water cooler for milk-in-the-can.

Truck bodies designed especially for "palletized" loadings.

Hygienic de-humidifiers.

Refrigerant reconcentrating units for hardening rooms and new condensing units.

Pocket-size humidity and temperature indicators.

Miniature recorder designed for refrigerated vehicles.

Meters to determine moisture content of dairy products and other substances.

Kits for testing water hardness and concentration of cleaning solutions.

Manuals for scientific cleaning of dairy plants.

New freezer models from two-quart table-size to continuous models for large operatoins.

Fast-operating milk shake makers.

Vending machines for dairy products.

Labor saving ice-cream sandwich maker.

Ice cream truck body with rear door.

Miniature packaged plant for producing ice cream novelties.

Fully automatic refrigerated pastry vending machine.

Air-blast type fast hardening systems.

All stainless steel filters.

Redesigned can washers.

Storage and mixing vats for medium-sized plants.

Electronc receiving platform thermometers.

Transparent demonstration of automatic control of HTST heat exchangers.

Alternate stand or sit drives for delivery trucks.

Reach-in display cabinets with thermopane glass in all doors.

Milking machines with an automatic shut-off mechanism and a 25 to 30 second stripping action.

New creamed cottage cheese process.

Individual serving size ice cream packages.

GIRTON
Dairy Equipment

Cleaning Equipment of Advance Design

GIRTON ROLL-A-TABLE

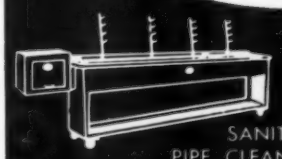
The Handy Stainless Steel Table that goes anywhere in your plant.

★ Move it like a cart ★ Use it for a table

A great help when disassembling, cleaning and assembling processing equipment and sanitary fittings.

24" WIDE 38" LONG 35" HIGH

WRITE FOR BULLETIN AND PRICE

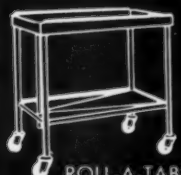


SANITARY PIPE CLEANERS

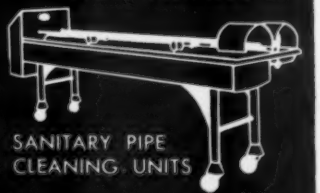
SANITARY TABLES

SANITARY PIPE RACKS

SEPARATOR PARTS CLEANERS



ROLL-A-TABLES



SANITARY PIPE CLEANING UNITS

GIRTON MANUFACTURING COMPANY

• MILLVILLE, PA.

Tastes Swell... Doesn't it?

Children love chocolate milk especially when it is made with Forbes Quality Chocolate, the result of 24 years experience in serving the dairy industry.

FORBES CHOCOLATE Offers You These Advantages:

- **A TRUE CHOCOLATE FLAVOR — NO BITTERNESS**
- **FLAVOR KEPT IN SUSPENSION — NO SEDIMENT**
- **FORTIFIED WITH PURE VANILLA PLUS VANILLIN**
- **CONVENIENTLY PACKED — ECONOMICAL TO USE**

Write or wire for a FREE sample and compare it — or better still, send us a trial order.

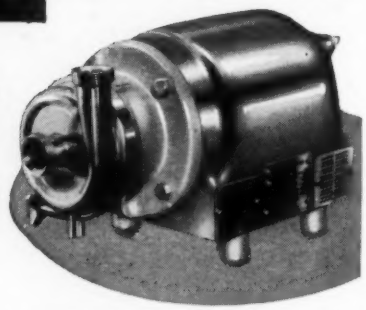
Forbes

The BENJAMIN P. FORBES CO.
2000 WEST 14th ST. • CLEVELAND 13, OHIO

flex-flo

the sanitary centrifugal pump

all stainless, foamless, for pumping all liquid foods



The new Flex-Flo pumps offer new standards for sanitary design, easy and complete disassembly for thorough cleaning — plus ability to be mounted almost anywhere for most efficient use. Sanitary rotary seal — no stuffing boxes. Approved by Sanitarians for use throughout the food industry for pumping milk, ice cream mix, beverages, flavors, fruit juices and other liquid foods. Meets 3A Sanitary Standards. Available in six sizes and types.

Send for information!

CHERRY-BURRELL CORPORATION
General Sales and Executive Offices:
427 W. Randolph Street, Chicago 6, Ill.
Milk and Food Plant Equipment and Supplies
FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 56 CITIES

trendmaker in a great industry

Constant motion chain soaker type bottle washers.
Stainless steel pressure process vats of new design.
Plastic coated bottle carriers.
Hardening cases with crosswire bottoms.
Lightweight, simplified cooling unit for trucks.
Machines for distributing "ripple" in ice cream.
Plate type evaporators, refrigerative.
Compact fast service "Bobtails".
Milk evaporators with solids-saving tangential separator and with vapor milk heaters using condenser heat.
Sectional hardening rooms and reach-in storage cabinets.
All aluminum (except for stainless floor pan) refrigerated truck body.
New chocolate fudge for ice cream tarts.
Automatic water saving spray nozzles.
Tropical fruits ice cream combinations.
Dioramic display of the history of chocolate and cocoa.
Aluminum closures.
Colored aluminum tumblers and other cottage cheese promotion aids.
Small size soda fountain units for double service.
Animated advertising displays activated by electric eye.
Hermetically sealed ice cream cabinets with all screws eliminated from exposed surfaces.
New frozen stick novelty equipment.
Chocolate covered butterscotch toffee for ice cream.
Filter discs and sediment testers.
Different types of vanilla beans.
Newly designed aluminum cases for glass and paper bottles.
Milk bottles with lustre color designs.
Realistic window displays and signs.
Ceramic tiles for plants and offices.
Automatic cone dispenser equipped with warmer.
Ice cream batches each with a different kind of vanilla.
Improved cones and dispensers.
Electric dry icers.
Ice cream portioning machine.
Powdered banana for ice cream.
Fruit and nut specialties for sodas and sundaes.
Refrigerated milk drink station.
Sanitary sink and workboard sections of newly designed soda fountains.
Winter ice cream cake novelty.
Non-corrosive liquid can wash.
Heavy trucks for ice cream delivery and milk distribution.
Continuous automatic ice cream hardening machine.
Automatic milk packaging machines for all sizes of containers.
Seamless milk pails.
Marshmallow crinkle and chocolate chips for ice cream.
Open and glass top ice cream merchandising cabinets.
Stainless steel milk strainer in 18 quart size.
Engraver for milk can identification.
More compact homogenizers with easily accessible power units.
Ice cream mixer and softener easily changed.

H. J. TAYLOR IS MIF SPEAKER

Well Known Businessman and Radio Commentator to Appear on Convention Program at Atlantic City

Henry J. Taylor, famed radio commentator, economist and journalist, and a successful businessman in his own right, will be a featured speaker at the Milk Industry Foundation convention in Atlantic City, October 16 at Haddon Hall Hotel.

Mr. Taylor is heard every Monday night over the ABC network, discussing domestic and foreign situations. He is among the best informed of all commentators, since he is continually traveling to all parts of the world, and unlike most others, he has concentrated on really getting

HENRY J. TAYLOR

down to the people, learning what is behind the news, instead of just talking to political leaders and accepting their own versions of current problems.

Though he has entree to the great political and social leaders of the world, and keeps in touch with them, Mr. Taylor spends even more time visiting people on remote farms, in villages, small shops, side streets, and in modest homes. What his keen analytical mind is searching for is not the obvious, but the obscure, so that he can tell which way things are going to go.

His subject at the Foundation convention will be followed by an informal question-and-answer period. With his unusual ability for discerning things beneath the surface, he is sure to give his audience a very fresh and very penetrating account. Chicago-born, he completed his education at the University of Virginia in 1924, and joined the staff of the Kansas City Journal. Working as a reporter, he continued his studies in the complex fields of economics and government. Within a few years, he took advantage of an opportunity to enter business and successfully built up a corn products enterprise. Later, he founded his own paper and pulp company.

Since V-J Day, Taylor has maintained his reputation of keeping constantly "on the go", by making fact-finding trips throughout Europe and the Far East. On one such trip, with an eye towards thoroughness, he brought along an automobile and drove 5,000 miles across England, France, Germany, Belgium, Italy and Greece.

STOELTING

ADVANCED EQUIPMENT

★ Modern Design
★ Finest Stainless Steel Craftsmanship
★ Plant Layout and Engineering

STOELTING Standard and Deluxe Model Pasteurizers

SIZES FOR EVERY NEED

20, 30, 50, 75, 100, 200, 300, 500 Gallons

Stoelting offers one of the most popular and complete lines of all-size Standard and Deluxe Model Dry Steam Pasteurizers in the nation . . . the "Flavorite" . . . time-honored throughout dairyland. The same fine engineering and expert fabrication that has made the 100, 200, 300, and 500 gallon "Flavorite" the favorite in so many creameries and milk plants, goes into the 20, 30, 50, and 75 gallon "Flavorites". The Stoelting principle of Dry Steam Heating assures preservation of a deep cream line and sweet fresh flavor of the milk. A special inclined propellor type agitator keeps the milk moving gently without foam regardless of the amount being pasteurized. Agitator is driven by a gear-head motor entirely enclosed and self-lubricated. Motor uncouples instantly from agitator shaft and swings to one side for quick and easy cleaning of the machine. Whether you need a small or large pasteurizer . . . for starter, milk, cream, sour cream, buttermilk, chocolate milk, or other dairy products . . . choose a Stoelting "Flavorite" right in size, right in price, right in quality.

"FLAVORITE"
DRY STEAM HEATING

Stoelting Also is a National Manufacturer of Intake and Weighing Equipment, Cold Milk Filters, Tanks, Cottage Cheese Vats, Canwashers, Conveyors, Sanitary Pipe Washing Machines, and other popular items.

STOELTING BROTHERS CO.
Manufacturing Engineers for the Dairy Industries
KIEL • WISCONSIN

XUM

A fieldman must be many things, all of them important. Clean milk from healthy cows is his creed. The nation's dairy farms are his workshop. In this article "Bill" Bryant, a veteran campaigner for better milk, takes a look at the profession of "fieldman" and tells you what it means.

In Minnesota and Wisconsin, Alabama and New Hampshire, on nearly all of the nation's six million dairy farms the fieldman is a familiar figure. Here a fieldman shows a producer how to make a home sediment check.

THEY DON'T WORK IN AN OFFICE

By C. B. A. (BILL) BRYANT—Johnson and Johnson

IN A RELAXED MOMENT, during a field training school program at a University Training Conference, I heard the Vice-President of a National Milk Organization, attending the conference as a student, say: "Hereafter any FIELDMAN of our organization who comes to my office, will receive the same attention and be given the same importance as our most successful salesman." This is indeed progress, made by these fine men who are continually on the front line—meeting daily our thousands of grand farm people who produce our milk supply. This remark was fully earned. By mingling with these fieldmen at work, by observing the importance of their duties, this vice-president had arrived at his conclusion.

Currently, as of Sunday evening, September tenth, 1950, on a National Radio Broadcast of another well known milk company, the importance of the fieldman was acknowledged with the statement "our own fieldmen several times a year inspect the milk at the farm for your protection."

The farmer who produced this milk was having sediment trouble. A fieldman's call resulted in cover protection against wind blown dust while cans were in the cooling tank. Solution was to cover tank with a blanket which was held on with a piece of inner tube and binder twine.

The fieldman works in the interest of the best sanitary procedures for keeping milk clean, from the teats of healthy cows to the milk plant receiving platform. In 1929 when the author first conducted a field demonstration on a dairy farm, very few milk organizations had fieldmen to attend. The chief milk plant representative in attendance was usually the manager or the buyer of supplies. A few large fluid milk organizations had men who gave full attention to farmer contacts in the specific interest of strict sanitation at the farm. Two or three of our largest evaporated milk organizations maintained directors of quality control and a limited field force. Soon the large national cheese organizations followed and in recent years the butter organizations have given a great deal of attention through fieldmen to farm quality of cream. Perhaps because of its nature, without a daily farm pick up program as is milk, the butter people have had a much more difficult task on farm quality education.

XUM

Many organizations had men in the field contacting farmers for procurement but not giving their time exclusively to quality control. Manufacturing milk organizations consolidated their efforts and established "Quality Standards Controls," employing very able and capable men to formulate and execute plans. States under the direction of their Agriculture College Extension Services and Dairy Departments developed excellent "Fieldmen Short Courses." These efforts created common goals and practices for further training of the men following this farm contact work. The result has been to raise the activities of fieldmen to the status of a profession. Smaller milk organizations have consolidated their interests and activities by counties into "Quality Associations." As an association they employ a fieldman for their needs. This is especially so in Iowa and Minnesota. In Wisconsin milk organizations have greatly expanded their field service to patrons. Early in 1950 the Dairy Division of Wisconsin Department of Agriculture reported that in 1949 two hundred and three plants adopted the field service plan. This they report makes 1,215 dairy plants in the State using this service, employing 469 fieldmen who devote all their time to work with milk patrons. These fieldmen as representatives of the dairy plants assist plant patrons with the latest suggestions and information on quality production.

Information Service Helps

The state has supplemented its quality milk production order by an energetic information campaign. Dairy farmers frequently ask the question, "When the plant fieldman visits my farm what is he going to look for?" The information program has been of great value in answering this question and has measurably assisted the sizable force of 469 fieldmen in their daily calls.

Practical application of a fieldman's services has indicated he must be in part qualified under the following classifications. These are so numerous as to use for captions—most of the letters of our alphabet:

(A)—A milk bacteriologist.
(B)—A milk chemist.
(C)—A public relations man.
(D)—A market specialist.
(C)—A construction engineer.
(E)—A quality control man.
(F)—A Babcock test specialist.
(G)—A salesman of equipment.
(H)—A competitive price analyist.
(I)—A defender of management policy.
(J)—A defender of Federal, State and city laws.
(K)—A defender of milk haulers.
(L)—A public speaker.
(M)—A cattle disease consultant.
(N)—A general handyman.

In preparing courses for schools for fieldmen Zahradka Associates have developed the forgoing list of subjects to be covered.

Ninty-nine and forty-four one hundreds per cent of our dairy farmers want to be sanitary in their handling of food products. But because of the daily nature of their activities, their continual work with soil, their conception of how to handle milk needs constant review. When I was a boy, in the spring of the year, I carried buck-

(Please Turn to Page 101)

HEADQUARTERS FOR WIRE DAIRY EQUIPMENT

BOOTH NO. 1341 — DAIRY INDUSTRIES EXPOSITION — ATLANTIC CITY

HERE YOU WILL FIND THE FINEST AND MOST COMPLETE LINE OF EQUIPMENT EVER OFFERED FOR HANDLING BOTTLED MILK

It Will PAY You to PAY Us a Visit

FOR INSPECTION, COMPARISON AND YOUR APPROVAL WE ARE SHOWING THE FOLLOWING:

1. **A Nunestyle paper bottle case in 12, 16, 20 and 24 quart sizes**
2. **A 20 quart paper bottle case that stacks with square glass bottle cases**
3. **Paper bottle cases that stack with round glass bottle cases**
4. **A 4 square gallon jug case that stacks with other square bottle cases**

THE ABOVE CASES ARE EXCLUSIVE DEVELOPMENTS OF BARKER ENGINEERS DESIGNED TO SAVE YOU MONEY.

Also on display will be our complete line of wire bottle cases for all sizes and shapes of square glass bottles, for round glass bottles and for paper bottles. — For the ice cream trade we will have all sizes of hardening cases. — For the creamery trade there will be butter baskets and cases, sample cream and composite test bottle racks, etc.

IF YOU GO TO THE SHOW THEN GO DOWNSTAIRS TO BOOTH NO. 1341 AND FIND OUT FOR YOURSELF HOW *BARKER* CASES SAVE MONEY

There IS a Reason Why so Many Leading Dairies Are Buying Barker Cases

ED BLOOMQUIST - AL HURLEY - WARD CRAMER - BOB BRUCE

Will Be Pleased to Welcome You in Booth No. 1341 and Explain These Reasons

BARKER EQUIPMENT COMPANY

Largest Exclusive Manufacturers Wire Dairy Equipment

1050 - 4th STREET **KEOSAUQUA, IOWA**

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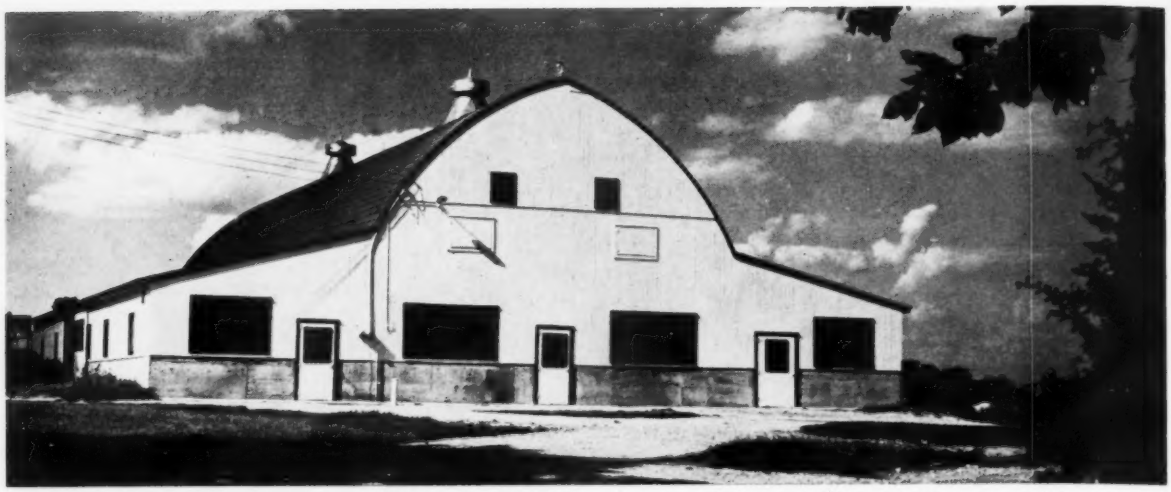

In order to take advantage of good Wisconsin sunshine this barn at the NASCO Dairy near Ft. Atkinson has installed the large windows shown in the photograph. These windows are made of an insulating glass consisting of two panes sealed at the edges with dry air in between. This reduces heat loss to a minimum and cuts down the condensation on the windows.

SUNSHINE IN THE DAIRY BARN

Drafts, Heat Losses, Dust Traps, Frosted Panes Are Problems In The Dairy Barn That Proper Windows Help To Eliminate

By D. C. SPRAGUE and EVERETT EAKIN

POORLY FUNCTIONING windows placed in farm structures with no thought of proper sun control have created a multitude of problems. Evils of today's farm building windows are so numerous and efforts to solve these problems have been so futile that the tendency too often has been to reduce the window area or eliminate the openings entirely.

Drafts from around the windows, heat losses, dust-collecting mullions and muntins and the frosted conditions of single-paned glass in winter have created such problems that many farm structures men have thrown up their hands in disgust.

In spite of these temporary setbacks much progress is being made today in improving the function of windows in farm buildings and in determining how the glassed areas may be better used in temperature and moisture control and for improved health and environmental conditions.

Benefits of Daylight

Although practically no work has been done to date to determine the germicidal effect of daylight passing through glass in farm structures, there is proof available of such germicidal benefits in other types of structures. Dr. Isadore Rosenfield, noted achitect and hospital consultant, writes that "light from grey skies, even though filtered through two thicknesses of ordinary glass, is still germicidal." He also points out that sunlight is faster in its effectiveness than light reflected from the sky or clouds.

A few livestock and poultry authorities have recognized the value of sunlight and daylight in farm buildings. "An essential to the best success of a chicken house is plenty of sunshine," says Dr. L. E. Card of the University of Illinois in recommending windows to the south in poultry houses. "The hens like it, and the sunshine helps to moderate low winter temperatures and to keep the house dry. Sunshine helps to prevent disease as well. It is one of the most effective germicides," Dr. Card adds.

Artificial breeding association experiences with low conception rates among cows in poorly daylighted barns support the theory of Dr. Glenn Salisbury also of the University of Illinois "that light influences reproductive functions in cattle by its action on the pituitary through the eye and the optic nerve."

Other observations show additional benefits from a well daylighted and insulated building including improved comfort for the worker, better sanitary conditions and control of environment and, according to some veterinarians and livestock specialists, improved animal fertility.

Value of Insulation Recognized

Recognizing the evils in present farm building windows and the need to improve the window role in these

structures, Libby-Owens-Ford Glass Company has become interested in stimulating advanced thinking on functions of windows on the farm.

With a better knowledge of the proper use of glass for daylighting and the application of solar energy in moisture control and heating in farm buildings it is believed that this product will contribute to greater efficiency in agricultural production.

We are concentrating our thinking on the application of insulated windows and the possibilities of solar heat to farm structures in our cooperative work with several of the state agricultural colleges and leaders in the farm building field.

Value of insulated windows long have been recognized by many agricultural leaders who in the past have recommended storm sash. However, rather than to be toubled by the bother of putting up and taking down storm sash each year most farmers have gotten along with single-glazed windows.

Because of the cost factor, little thought had been given until now to the use of insulating glass in farm structures, although practically every piece of machinery or other improvement on the farm when first introduced was felt to be too expensive to be practical.

Libby-Owens-Ford Thermopane basically is two lights of glass with a pocket of dry air sealed in by a metal-to-glass bond. With the moisture taken out of this air pocket it serves as an insulating unit that will not condense between the two lights of glass. Perfected primarily for the home, this insulating glass normally is made with polished plate glass for clearer vision.

For farm buildings the same serviceable unit may be made with less expensive window glass in the smaller sizes and with heavier sheet glass, 3/16th of an inch thick with a half-inch air space for window openings up to 42″ by 72″. Several standard sizes in this thicker glass soon will be established so that glass distributors and dealers will have it in stock to meet the farm trade. The "U" value or the heat transmission factor of this product is .58 as compared to 1.16 for a single pane of glass.

Solar Heat for Farm Buildings

Insulated windows properly oriented for sun control make it possible to keep buildings warmer in winter and cooler in summer. Likewise such windows help to make an insulating job complete, maintain a higher temperature in winter and by so doing help to increase the efficiency of the ventilating system in reducing the moistue problem.

The solar heat principle which has spread so rapidly in the home field now may be applied to farm buildings. There are four fundamental factors of solar design: (1) Window orientation to face south to obtain the heating benefits of solar radiation in winter. (2) Larger windows which are necessary to provide proper entry of solar radiant energy in winter months. (3) Insulated glass to cut down on the heat loss. (4) Sun control which is achieved by the use of permanent or temporary room over-hangs, visors or other means of controlling shadow

How's Your Old B.C.?
BACTERIA COUNT
THE CHLORAMETER has sent it down the drain for a lot of Dairymen!
The CHLORAMETER is a new all-purpose feeder for chlorine or other sanitizing compounds, which eliminates the guesswork from
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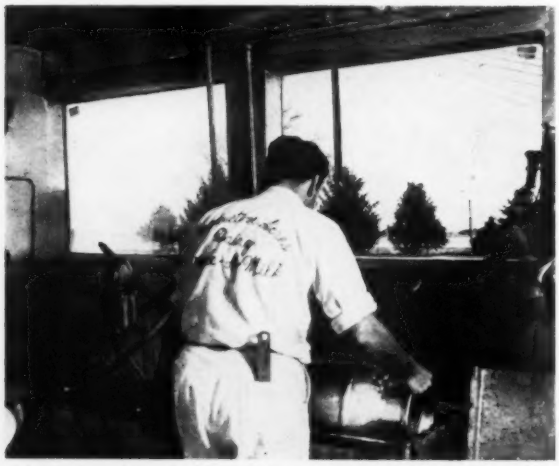
Getting away from the old type windows which were too small to admit beneficial sunlight and were hard to clean, the Doral Dairy barn near Stamford, Connecticut, contains eighteen large picture windows.



Researchers have found sunlight to be beneficial in preventing damaging moisture and in killing germs. The windows in the milk processing room of Productive Acres Dairy near Keota, Iowa, admit plenty of light.

areas on the windows so that sunlight can enter during cold weather and be shut out during the hot summer months.

Previously farm building windows have been placed on the east and west exposures in many instances in the belief that the east openings permit entry of the morning sun and the west windows the afternoon sun. This is true especially in the late Spring, Summer and early Fall when the heat rays of the sun are undesirable. In the Winter when solar heat is needed little can enter east or west windows because of the position of the sun being low in the Southern sky.

South windows permit entry of the sun in winter, in early spring and late fall when the warmth of the sun is needed to help heat the interior.

Whether the window areas be north and south, or east and west, use of insulated glass will increase their daylighting efficiency, help the ventilating system, cut down drafts in the window areas and make it possible to better control the moisture problem and maintain a more uniform temperature. This in turn contributes to better health for the livestock and poultry, maintenance of peak production over a longer period, better working conditions for the attendant, and longer life for the building.

Trend to Large Windows

With the trend to specialization in livestock and poultry production, as indicated by the pig nursery idea, construction of poultry buildings housing up to 60,000 birds under one roof and the labor saving methods introduced such as self-feeders, butter cleaners, the milking parlor and milk house, it is becoming more important than ever to have the ultimate in improved sanitary and environmental conditions. With greater investments in livestock and buildings these interests must be safeguarded and maintenance problems reduced. Solar heat may be used to intermittently condition the interiors in reducing the moisture problem and with electric or other automatically controlled heat may be used for additional warmth in winter months.

We believe windows of tomorrow in at least the colder portions of the country will be of insulated glass. Many will be in fixed frames or a combination of fixed and ventilating sash. Windows in most cases will be larger and will run horizontal rather than vertical and will be placed higher on the wall. For greatest efficiency windows will be in north and south walls with the greatest number on the south and enough on the north to provide balanced lighting.

More Daylight Warmer Buildings

From an engineering standpoint properly planned windows can contribute to the benefits obtained from remodeled and new farm buildings in better building performance. Unfortunately most farm building windows today are responsible for drafts, ventilation troubles, frosty, wet, rotting sash and sills, dark work areas, and insanitary barns and milk houses. This need not be true. Farm building windows can be planned to simplify building construction and decrease maintenance problems. Properly planned windows can make shelter building conditions more sanitary and healthful for animals, and work easier and more pleasant for man.

The availability of double panes of glass with a sealed in insulating air space now makes it practical to complete the insulation of all exterior enclosure surfaces. It is well established that the insulation of animal shelters is necessary to provide desirable inside temperatures and to permit the building to be adequately ventilated during cold weather. The heat to warm the building must balance that lost through walls, etc., plus that needed to warm the incoming fresh air. Any decrease in heat loss, or increase in available heat, will permit a greater rate of air change or a higher inside temperature for a given outside condition. The use of insulating windows affects this heat balance to the same extent as would the addition of any other kind of insulation which would reduce the heat loss the same amount.

However, insulating windows contribute much more to environment within the building than does a comparable amount of structural insulation. The transmission of

daylight is the principle function of a window. Under conditions which exist in livestock and poultry shelter, insulating windows often are considerably more efficient in letting daylight and sunshine into the building than ordinary single-glazed windows. Observations of installations made for the purpose of comparing the performance of insulating windows with that of old-fashioned windows, both used under the same conditions, have shown that insulated windows gather dirt less rapidly, stay freer of condensation, and are much less apt to frost over than ordinary windows including those protected with storm sash. This is to be expected as the inside surface temperature of an insulating window more nearly approaches the inside air temperature than that of a single pane of glass. Thus the inside surface of an insulating window is less apt to reach the dew point and condense moisture. Also, the warmer inside surface temperature produces less convection current, thus less dirt is carried to the window to coat it. Too, dirt adheres much less to a dry window than a wet one. The accumulation of moisture and dirt on the glass surfaces in the space between the panes decreases the efficiency of the storm sash, especially on cold days. The sealed space filled with dehydrated air in the insulating type window prevents this difficulty. More objective data on the comparative performance of these windows will be forthcoming from studies underway at the Universities of Wisconsin, Massachusetts, and Cornell.

Insulating type windows therefore, make better daylighting of animal shelters possible. They let in more light per square foot of window area under actual use than do ordinary windows because they stay cleaner. Also, more window area can be used without increasing the heat loss when ordinary windows are replaced. At the same time, drafts caused by cold window surfaces are minimized.

Larger Windows and Panes of Glass Increase Effectiveness of Windows

The effective light transmitting area of a window opening may be increased as much as 50% in some cases by using a single pane of glass in the opening rather than the conventional multiple-light sash. For example, the popular 22″ x 29″ four-light barn sash fits into an opening having an area of 638 sq. inches. It provides an unobstructed glass area of about 400 sq. inches. Glass area more nearly approaches that of the wall opening when a single pane is secured in the opening by stops or narrow frame.

Large window openings admit more daylight and sunshine into a building than do an equal area of small ones, especially those in thick walls. In general the amount of light reflected from the sky through a window is proportional to the area of the sky which may be seen through the wall opening. The ratio of the area blocked out by jambs, to the area of the window, increases as the wall thickness increases. For a given wall thickness it decreases as the size of the window is increased. Likewise, the effective area through which the direct rays of the sun may enter through a wall opening is affected by the thickness of the wall and the size of the wall opening. When the sun is not perpendicular to the face of the

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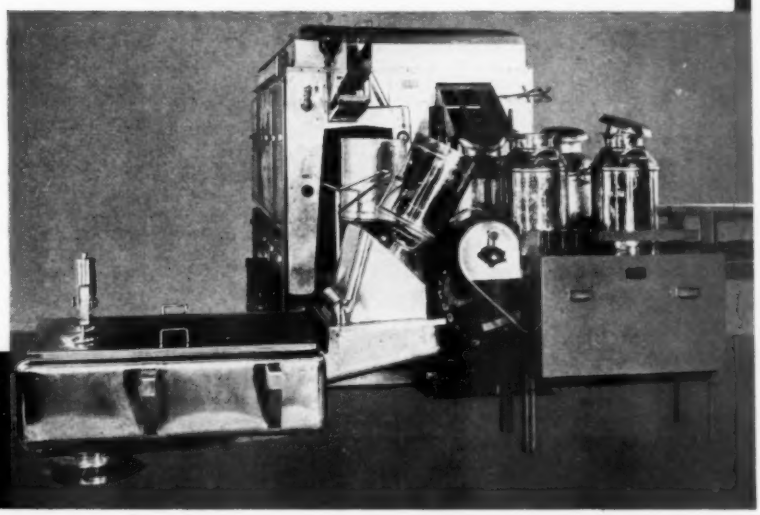

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window, increasing the size of the wall opening also increases the per cent of effective window area. For example, consider the sun to be at an angle of 45 degrees to the face of a window in a wall 1 ft. thick. The width of the beam of sunshine entering window openings 2′ and 4′ wide would be 0.707′ and 2.12′. Thus, for equivalent sunshine, 1 window 4 ft. wide is equal to 3 windows 2 ft. wide. Therefore, with large panes of sheet glass of suitable strength available, the use of larger windows and window lights seems very logical.

Fixed Windows Separate Ventilation

The second function of a window has been to provide a means of ventilation. Farmers know the hazards of window ventilation and the attention it requires. Recently, electric service has been made available to practically all farms, and with it, automatic ventilation. Considering that one watt of electrical energy input will circulate as much as 20 CFM of air a minute through a building, and that only from about 40 to 200 CFM is needed per cow during the time they are stabled, the possibilities of automatic ventilation become apparent. The development of ventilating systems not dependent upon windows is well underway. Some new barns are being built with all windows fixed in place.

Data reported by Harold V. Walton in a graduate school thesis, "Air Flow Characteristics of Fresh Air Inlets Used in Animal Shelters", The Pennsylvania State College, Department of Agricultural Engineering, are helpful in explaining the difficulties encountered in window ventilation. The operating pressure differential found to exist between the inside and outside of many exhaust fan ventilated dairy barns is about 0.03 inch W.G. when there is no appreciable outside air movement. These data also show that when a 34″ tilt-in window is opened to serve as a fresh air inlet it will admit about 170 CFM of air when the differences between inside and outside pressure is 0.03 inch W.G.

It is recognized that wind will cause both positive and negative pressures about a barn, the amount of pressure change at any location depending upon wind velocity, its direction and other factors. Some observations have shown that gusts of wind frequently encountered may increase the effective pressure differential across an inlet to the equivalent of 0.2 inch W.G. and more, or they may even create a negative pressure. Data show

This impressive looking instrument is called the Solarometer. It is used to demonstrate how the sun's rays strike a farm building as the sun moves from sunrise to sunset. The device will also ascertain the sun's angle in any part of the United States at any time of day.

that when the static pressure differential across the window is increased to 0.2 inch W.G., the same opening will admit 470 CFM, or 300 CFM more. The same window when opened 6 inches was found to admit 590 CFM under a pressure differential of 0.03 inch W.G. Thus it can be seen that window inlets require the attention of the operator to adjust them as weather conditions change.

The further study of Mr. Walton's thesis shows that the performance of all unrestricted inlets is about the same. One especially designed restricted type of inlet maintained constant volume air flow through a varying pressure differential of from 0.04 to 0.3 inch W.G. which was the limit of the test. This type of fresh air inlet may greatly improve the ventilation of farm buildings. In order to overcome the difficulties of admitting air uniformly through inlets into a building, thought is being given to forcing the air in and allowing it to escape through outlets. One company is testing the performance of heat exchange equipment which will be completely

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automatic in operation. The trend in the development of ventilation equipment is to eliminate the use of the window.

The possibilities of fixed insulating windows in poultry houses is being explored. Professor Krueger, Extension Agricultural Engineer at Rutgers University has under his observation a laying house for 2,000 birds in which there are 52 fixed windows 27½" by 51" of insulating glass. Air is being forced into this house and it is distributed by means of a large duct located at the ceiling. The results obtained in maintaining desirable house temperatures and dry litter during the past winter and spring were very satisfactory. The effectiveness of summer temperature control in the house has yet to be observed.

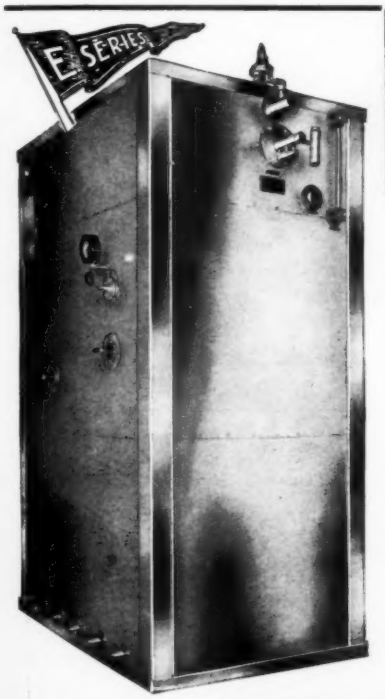
The warm weather ventilation of buildings with non-opening windows which the writer has observed, has been facilitated by the opening of doors. The results during winter and spring weather obtained in barns, milking parlors and milk houses have been very satisfactory, and are judged to be practical and superior to window ventilation.

The success with which desirable temperature may be maintained in these buildings during summer will be affected greatly by how well the windows are insulated, how they are orientated, and possibly how they are shaded.

The position of windows greatly affects the amount of solar energy that will pass through them. The more nearly the window faces perpendicular to the sun's rays, the greater will be the heat input. In the summer at our latitudes the sun rises north of east and sets to the north of west. At this period of the year east and west windows may be objectionable because in the early forenoon and late afternoon unwanted solar energy enters the building through them. West windows are most troublesome in this respect.

The sun's rays strike south windows during summer only when the sun is high in the sky. Because of this the rays impinge at such an angle that much of the energy is reflected and does not pass through the glass. When desired, all the direct rays of the sun may be prevented from striking a south window by shading it with a simple roof overhang On the other hand, it is difficult and often impractical to prevent the sun from entering the east and west windows of farm buildings during summer. Trees, outside blinds or low awnings must be used because the sun will shine beneath a simple roof overhang during the early morning and late afternoon. Very little solar energy will enter north windows.

The roof overhang or projection needed to shade south windows during summer should not exclude the winter sunshine. To properly design the overhang it is necessary to know the minimum profile angle of the shadow cast by the overhang at the time the window is to be entirely shaded, and also, the maximum profile angle during the time it is desired to expose all the window to the sun. Of course, there are practical limits to the lengths of time that the window can be entirely shaded or exposed by use of a non-adjustable overhang.



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It seem to be common practice in the case of solar type dwellings, to design the overhang to completely shade the window from the end of the heating season until about the beginning of the next, and to provide for irradiation of the entire glass area of the window by the sun on December 21. From December 21 to the date selected for complete shading amount of direct radiation through the window decreases each day, and of course it increases again in the Fall to December 21.

In order to design a fixed overhang for a window facing south, data must be available which will give the elevation of the sun at high noon at the given latitude on the days selected for complete shading and exposure. Graphic means of determining the position of the edge of the overhang probably is easiest. This is accomplished by a first drawing to scale a section of the wall and window. A line is then drawn from the bottom of the window at an angle with the horizontal equal to the elevation of the sun on the day the window is to be shaded. Another line is made from the top of the window at an angle equal to the elevation of the sun on the day the window is to be entirely exposed. The lines are extended until they intersect and the point thus formed marks the edge of the overhang. A line drawn horizontally from this point to intersect the plane of the window represents the length of the overhang. The height of the overhang is represented by the distance from this line to the top of the window. Actual dimensions are determined by the scale of the section drawing.

Performance of Insulating Window Installations

To date insufficient experience can be called upon to determine the necessity and practicality of overhangs for farm building windows. Overhangs for south windows planned to take advantage of solar heat will be used for observation purposes by several of the agricultural colleges on several structures now under construction or contemplated. These include a hog house more than 100 feet long with 32 windows of insulating glass, 36″ x 66″ at the University of Minnesota's Rosemount branch experiment station and several milk houses and milking parlors in Pennsylvania and Maryland. Solar type poultry houses with overhangs for the south windows are planned in Illinois and at Pennsylvania State College.

Milk houses and milking parlors on the farms of Hugh Highsmith, Fort Atkinson, Wis., and H. E. Babcock, Ithaca, N. Y., each with large insulating type south windows and no overhangs, were found not to be objectionably warm last summer, according to the farm managers.

The effects of wintertime solar heating were demonstrated by these installations. Solar heat helped noticeably in drying the interiors and warming them during the day. It was found that floors could be dried quickly by properly ventilating during the middle of the day after they had been scrubbed. On most days solar heat was sufficient to make inside temperatures comfortable during evening choretime. During colder weather supplemental heat was found desirable to prevent freezing on very cloudy days and at night, and especially to warm milking parlor for the early morning milking.

An outstanding example of how a critical moisture situation in a dairy barn was corrected by increasing the window area with insulating glass and changing the ventilating system is the Hokenson barn under a joint study by Professor Max La Rock, University of Wisconsin, and Robert Yeck, USDA. This was a typical bank-type dairy barn, poorly lighted and ventilated. The stable is 36 ft. wide, 84 ft. long, with an 8½ ft. ceiling, and houses 40 cows facing out in two rows of stanchions. In less than 10 years, rotting of the south wall made extensive repairs imperative. In repairing and remodeling the structure 160 sq. ft. of insulating glass was installed in the south wall, and electric ventilation replaced the gravity system.

In addition to 14 units of insulating glass 44″ x 40″ on the south wall used in the study, eight single-paned windows with three light, 14″ x 16″ were left in the north wall over the bank and three windows with six lights each, 10″ x 16″ are at each end. The ventilating fans exhaust about 4,000 CFM of air.

Observations made with all but the south windows covered indicated that 4 sq. ft. of glass area per cow located in the south wall provided satisfactory daylighting of this stable during most of the hours of daylight, but that in the early morning and late afternoon the north feed alley, especially at the end of the barn facing the sun, was not nearly as well lighted as the other areas. Also, it was observed that uncovering the windows at the east and west ends substantially increased the light intensity along the entire north feed alley during the early morning and

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late afternoon. In cases where north windows are difficult to provide, a limited area of east and west windows may be desirable in spite of their high solar-heat gain during summer.

The total area of insulated and ordinary windows in this barn equals 5¾ sq. ft. per cow With the thermostatically controlled electric ventilation, a stable temperature of about 58 degrees F and a relative humidity of about 55% was maintained during the winter This indicates the effectiveness of the overall insulation of the barn as the relative humidity averaged 10 to 15% lower than that ordinarily encountered in dairy barns. Undoubtedly the solar energy entering through the south windows contributed to maintaining a low relative humidity in the stable during the daytime.

Methods of Installing Insulating Glass

Most insulating glass is being installed in farm buildings as fixed panes held in place by stops nailed to the jambs, head and sill, in the window openings. One barn equipment manufacturer has developed a steel sash for both ventilating and fixed windows of insulating glass. These may be installed individually or in combinations in window openings in either concrete masonry or frame construction.

Another manufacturer has developed a ventilating sash for insulating glass which is designed for use between studs placed 24" on center, and provides a light 16" high. When placed in the walls of a stanchion barn an area of 4 sq. ft. of glass area is provided per cow.

Solar Designs Now Possible

The utilization of solar energy as a source of heat for farm buildings is not a new idea. The need for heat to dry the interiors of animal shelters and to maintain comfortable inside temperatures during winter has long been recognized. Little use has been made of this natural resource to heat buildings to date, however, because of the lack in the past of essential materials, techniques and general information.

For the first time it appears that these handicaps are being overcome. Practical means of entirely insulating buildings including windows are now available and understood. Data are rapidly becoming available on solar radiation rates for many locations. Methods for evaluating these in terms of usable heat are being developed. Large glass areas and ways to shade them have become practical realities. Electrical energy has recently been made available in nearly every home and on practically every farm.

The possibilities of daylight engineering and solar heating open a new frontier in the design of farm buildings. As yet the possibilities for using this natural resource for the benefit of man and animal are undeveloped. It appears that for the first time the tools necessary for its utilization are at our disposal.

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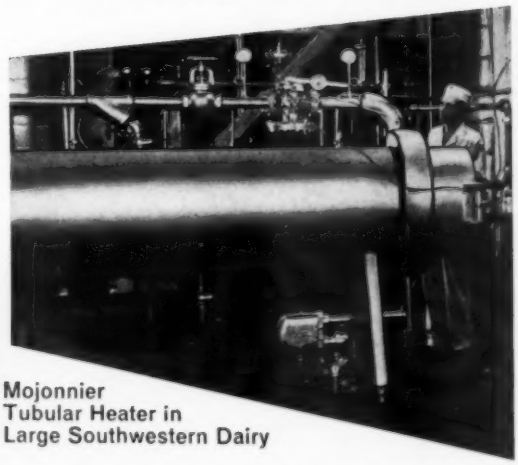

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WARD K. HOLM

WARD K. HOLM

Colorado Dairy Products Association

A FEW MONTHS AGO we brought you a secretary who had moved east from Nebraska to Indiana. That was Dick Larson of the Indiana Dairy Products Association. This time we have a secretary who has moved west from Ohio to Colorado. His name is Ward K. Holm and he is the latest addition to a distinguished list of State association executives. A few months ago he took over the job of directing the activities of the Colorado Dairy Products Association, a post that had become vacant through the untimely death of Amon Bradshaw.

Although he has imbibed plenty of theory and science in the course of his journey to Colorado, Ward gleaned the fundamentals of the dairy business from a country cream station and the business end of a cow. His father operated a country store and bought cream for the Fairmont Creamery Company. Ward was the youngest of five boys. When he was twelve years old he says, "my father, seeing all the man power he had available, bought a 200 acre farm where we moved and went into dairy farming, still continuing the cream buying business."

Although the days that Ward writes about are only just past, the pioneer flavor was still there. "My early school life, up to the sixth grade, was in a one room brick school house", he says. He finished high school in 1935 and then tackled Ohio State University. He was graduated from the University in 1942 after an active college career which he says, "I financed one hundred per cent".

Like most of his colleagues he immediately laid aside his cap and gown for the dungarees of a Seaman First Class in Uncle Sugar's navy. He spent four years as a sailor and did pretty well at the job. He was mustered out in the last days of '45 as a full lieutenant. The transition from sword to plowshare was a quick one. He left the navy and immediately went to work as the first full time secretary of the Columbus, Ohio, Milk Distributors Association succeeding Professor R. B. Stolz who had contributed so much to the dairy industry in Ohio and in the nation.

At Columbus he was working with such able men as Andy Anderson, Secretary of the Ohio Dairy Products Association, T. Kline Hamilton, President of the Milk Industry Foundation, and Dick Larson, Secretary of the Indiana Dairy Products Association. He learned the business of dairy association work from those who knew whereof they spoke.

At Columbus he had an opportunity of participating in one of the best markets in the United States. As Secretary he operated a universal bottle system set up by the association. A cooperative crate exchange was another triumph of industry cohesiveness he helped to manage. An extensive and successful public relations campaign was an important phase of the business that he was called upon to develop in Columbus. The one great thing that he learned at Columbus and the thing that will make him more valuable than any other single bit of knowledge was the assimilation of that atmosphere of industry-wide cooperation, that willingness to compete fairly and ethically that makes the Columbus market what it is.

Ward Holm goes to Colorado to fill a man sized job. We regret the passing of such a splendid friend of the industry's as Amon Bradshaw, but we are quite sure that in the genial guy from Columbus the dairy industry out there in the great west has found a man equal to the task.

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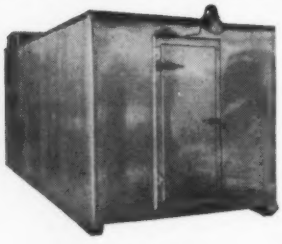

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ets of milk. (one in each hand) from barn to milk house across a spacious barnyard. I used to stop at the big animal water tank, located in the center of the barnyard, to cool the milk, by twirling the partly submerged buckets in the cool water. I counted the number of twirles the first time and when I felt the milk was cool so it would not clabber (no thought those years about bacteria) I set the buckets down and placed my fingers into the milk to establish the temperature.

●

DON'T WORK IN OFFICE

(Continued from Page 91)

On all later occasions the number of twirls were the sanitary yardstick for establishing the temperature. Times have changed and properly so. Modern standards of sanitation are a far cry from those that prevailed forty years ago. Our fieldmen, by educational methods, must correct natural tendencies—and teach sanitation.

One of our leading fieldmen, Charles A. Hilt of Bryan, Ohio, has very well expressed this feature of a fieldman's work in poetic form.

"It's the fieldman who to this farmer must go
Whether it be John, Jim, Jack or Joe.
And say to him, See here, my dear man,
You're not doing the very best you can.
You must try to make him do right,
Your arguments and explanations must be air tight,
You've got to make him like it
Even tho' from his farm he may say hike it.
To answer all questions requires originality.
Lots of spunk, knowledge and personality.
So a silent tribute let us all pay
To those fieldmen who work every day
Not with machines, electronics or silk,
But work with the farmers who produce our milk."

It is through these numerous fieldmen of all the milk industry of our United States that dairy farmers are being shown the value to themselves of using their daily single service fibre-bonded cotton filtering material as a check. This practice serves as a check on sanitary preparation for milking and as a home sediment check.

It is the fieldmen who are indirectly responsible for maintaining the milk supply of our nation. The future of the dairy industry must be based on its source, the farm. This supply will grow in quantity and quality in direct proportion to the skill and effectiveness of our fieldmen. They are the front line troops in the ceaseless effort for clean milk. They are the vanguard in the battle for quality.

THREE FELLOWSHIPS

(Continued From Page 24)

individual winners in the All Products class and a cup will go to the winning team. Graduate fellowships, each fellowship worth $875, will go to the top teams. Two fellowships were awarded last year and winners of these awards, one from Connecticut and one from Mississippi State College, are doing research at the present time. Three fellowships will be awarded this year for the first time.

In preparation for the 1950 contest specimen, score cards, indicating the competition's range and method have been sent to forty-five colleges and universities. Not all of these institutions will have teams in the contest but all indications are that a near record number of teams will man the tryers and the score cards come Monday, October 16.

With a record number of events on the week's roster the contest awards, usually made on Tuesday night, will be made on Monday evening. As a result of this moving up of the schedule the contest itself will be held earlier than usual on Monday mornng.

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XUM

Grow Old Gracefully With Milk

By W. H. RIDDELL

University of Vermont

A NEW SCIENCE has blossomed forth concerned with the problem of why and how people wear out and grow old. They call it gerontology. The word is from the Greek, "gerontos" and means the study of old age. One of its aims is to extend the "prime of life" and add more useful years to human life. There is growing evidence that it is possible through better nutrition to add to the life span and put more pep in the later years. The new phrase about life beginning at fifty will have more significance in future.

What foods will insure more years of health and activity in this quest for the fountain of youth? These questions are being seriously studied at several of our leading universities. Dr. C. G. King, Director of the Nutrition Foundation says there is much evidence even from human experience that health and vigor is higher and over a longer span of years when the food consumed is consistently of high quality. But the burden of the proof is from work with experimental animals. While someone has said we should be cautious in reasoning from mice to men, one cannot help but be greatly impressed by the results of Professor H. C. Sherman of Columbia University, famed authority on human nutrition. He has reared 70 generations of rats in good health and vigor on a diet made up solely of five parts whole wheat and one part dried whole milk with some salt and water added. But when he added to this diet, more of any of the four nutrients, calcium, animal protein, vitamin A or vitamin B_2 he got added pep as measured by earlier maturity, longer life and greater success in rearing their young. Note the unique value which milk has as a liberal source of all four of these nutrients. No other food compares with it in this respect. Professor Sherman himself has said "no other food excels milk in the possibilities it holds for improvement of life through better nutritional well being". And how little we are doing, as an industry, to promote the use of milk through wider publicity to these remarkable food values. This writer looks forward to the day when every producer and branch of the industry will give financial support to a greatly expanded educational and advertising program on a nationwide scale for this finest of all foods. Then and then only, will the complaints about overproduction of milk give way to an appreciation of the fact that underconsumption is our problem. This is no idle or facetious statement. No less an authority than Dr. Hazel Stiebling, Chief of the Bureau of Human Nutrition, Washington says, "we in this country would do well to use twice the quantity of milk and dairy products now consumed, according to the experts in nutrition".

Needs of Oldsters

But to get back to our subject that milk helps extend the "prime of life" and defer old age. Let us take one of these unique values of milk – its calcium content. A very significant finding, of recent years, is that older persons need more calcium in their food than was previously thought to be the case. For it seems we lose calcium more rapidly from our bodies after we pass the middle years. This accounts for the brittle bones of later life. Dr. Clive McCay, nutrition expert at Cornell University, says that after 50 a person requires about the amount of calcium he would get daily in a quart of milk. The evidence grows that milk is good for old as well as young. Grandpa needs milk as well as junior. For those who don't care for milk with their meals, ice cream and cheese substitute well, for they are milk in concerntrated form. In fact, milk and milk products are the only reliable source of calcium in the American diet today. It is practically impossible, we are told, to meet our daily requirements of calcium without including milk in some form.

In a recent food survey of some 1600 families in 68 cities, the Bureau of Human Nutrition found that two-thirds of the low income families had diets definitely low in calcium, good quality protein and certain vitamins. Nutrition authorities of the Bureau point out that a higher level of milk consumption in these families would correct these deficiencies. The newer knowledge of nutrition points to the evergrowing importance of milk in maintaining an adequate consumption at all ages of calcium, high quality protein and vitamins A and B_2. There is good reason for believing that the "prime of life" can be extended and old age deferred through better nutrition. And, in this better nutrition of the future, milk and its products will play the most important role.

which affect interstate commerce. The marketing of local and intrastate products in competition with similar commodities in interstate commerce, continued the court in this famous decision, might so interfere as to justify the regulation of such local products within the state.

"It is the effect upon interstate commerce or its regulation regardless of the particular form which the competition may take, which is the test of federal power."

This conclusion is supplemented by a survey of the marketing factors that support this exercise of federal power over intrastate activities and the disastrous consequences from a failure so to do.

The marketing of intrastate milk which competes with that shipped interstate would tend seriously to break down price regulation of the latter. Under the conditions prevailing in the milk industry the regulated sale of intrastate milk tends to reduce the sales price received by handlers and the amount which they in turn pay to producers.

"Study of the order which we have summarized," said the court, "makes clear that the unregulated handler selling fluid milk can pay producers substantially less than the minimum price set in the order for milk of that class and yet pay as much as or more than the 'uniform price' prescribed by the regulatory scheme for all producers which is based upon the average price for the several classes of milk combined. Such a handler would have an advantage over others in the sale of the class of milk in which he principally deals and could force his competitors dealing in interstate milk to surrender the market or seek to reduce prices to producers in order to retain it."

The control of the Federal Government and the authority of the Secretary of Agriculture does not therefore depend on the chance that some particular dealer is or is not engaged in carrying on his business in more than one state.

"The national power to regulate the price of milk," concluded the court, "extends to such control over intrastate transactions as is necessary and appropriate to making the regulation of the interstate orders effective; it includes authority to make like regulations for the marketing of intrastate milk whose sale and competition with interstate milk affects its price structure so as to affect in turn. adversely, the Congressional regulation."

It thus becomes clear that the authority of the Secretary of Agriculture in the regulation of the milk industry is not determined either by state lines or geographical boundaries. The authority is as extensive as is the industry. Over a hundred and twenty-five years ago John Marshall, then chief justice of the United States Supreme Court, said of the power of the Federal Government over interstate commerce, "This power is complete in itself, may be exercised to its utmost extent and acknowledges no limitations other than are prescribed by the Constitution."

REFERENCES

Balazs v. Brannan. 87 Fed. Suppl. 119.
United States v. Rock Royal Coop. 307 U. S. 533. 7 U. S. C. A. 608c(1).
United States v. Wrightwood Dairy Company. 315 U. S. 110.

The best way to sell more milk to more stores is to sell

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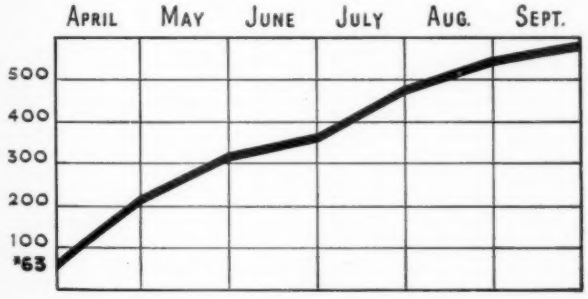

**This figure from the record of a West Coast Dairy (name on request) indicates its total store distribution of combined milk and Yami Yogurt at the start of the 6-months' period shown in the sales-curve.*

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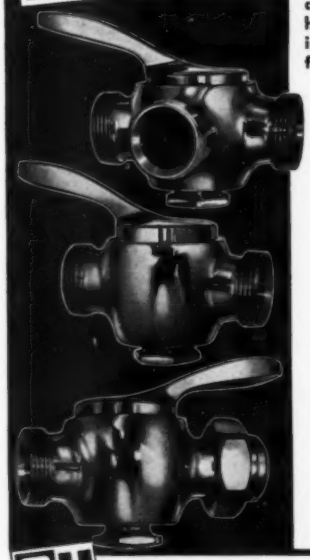

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XUM

SENATE INVESTIGATES

(Continued from Page 8)

supporting dairy products could be directly attributed to the increased volume of milk in 18 eastern markets over and above the local requirements for class I sales.

The sub-committee gives no indication that it has even considered its work approaching completion. The resolution provides for the sub-committee to function during the life of the Congress that created it. When a new Congress is elected that body will have to vote the necessary funds for the sub-committee to carry on its work. Presumably that will be done and the work will be continued.

An adequate valuation of the work accomplished by the sub-committee is extremely difficult. The scope of the study is so vast and the subjects so complicated that the mere volume of testimony is almost overwhelming. However, as far as the dairy industry is concerned the hearings have offered the dairy industry the opportunity of expressing some of the ideas that have been fermenting in the collective mind. It is a good thing to get these ideas down on paper and in an official record. Furthermore they have been well thought out and, under the searching questions of the sub-committee, they have been hammered into shape so that they mean something. That in itself is achievement. Secondly, some of these problems, particularly the problem of restricted health regulations, appears to be in for some legislative medicine. Best of all from the dairy industry's view point is the fact that it has had a fair and open hearing before a representative group of legislators. It's problems have been explained and the explanations listened to. One reads the fascinating pages of testimony and one senses a deep desire on the part of industry representatives and sub-committee members to work together on this common problem of agricultural surpluses. One gets the impression that Mr. Von Bomel, Mr. Montague, Mr. Eastlack, Mr. Haskell, Mr. Wallrich and others who appeared have left behind them more friends than they have enemies.

Perhaps the key to the soundness of this study is in the caliber of Senator Gillette who was its original sponsor. The Senator has been able to keep his feet on the ground during the hearings and listen attentively and profitably to some pretty complicated testimony. He has exercised undisputed control over the proceeding but a control with a gratifying human touch. One does not forget easily the little things such as the time when Mr. Van Bomel was questioned concerning his salary. Mr. Van Bomel revealed that he received a salary of $150,000 a year. Said Senator Gillette, "You haven't got room in your organization for a United States Senator, have you?"

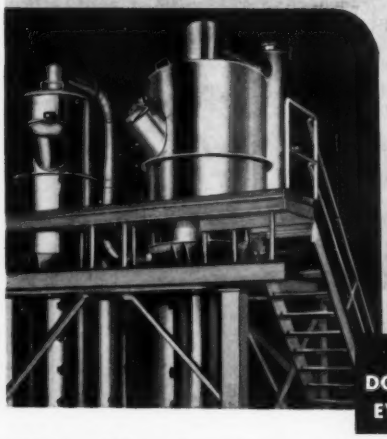
●

FOUR POINT FOUR

(Continued from Page 56)

that a strong consumer resistance may arise, with a decreased consumption of fluid milk. In the Quad Cities, during July, 1946, the price of a quart of milk increased 24 per cent, while retail sales of fluid milk decreased only

ROGERS WELCOMES YOU



BOOTH 364
Dairy Industries Exposition

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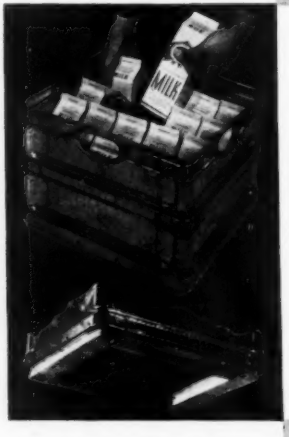

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3 per cent. Sales returned to the June, 1946, level in October, 1946, with the retail price held constant. This finding indicates that a relative inelastic demand for fluid milk exists for the whole market when retail milk prices are generally in line with consumer income. Dr. C. J. Blanford (New York Milk Market Administrator) found similar results in his New York City study in 1938. The crucial problem is that the industry must know where the breaking-off point is in order to do a good job of retail milk pricing. The industry does not have enough information about consumer reactions to prices at the various income levels, so that retail sales can be predicted reasonably with each change in price. More detailed and better consumer analyses are needed. These could and should be financed by the industry.

QUARTERNARY

(Continued from Page 42)

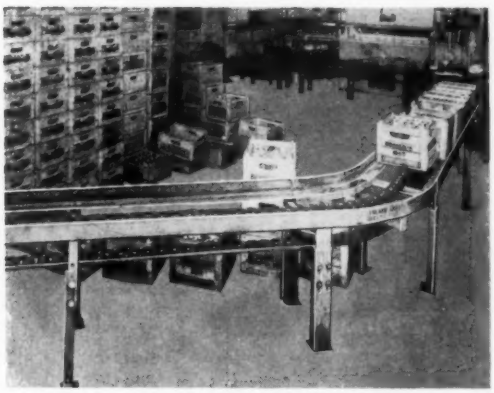
milk product containing detectable quantities of quaternary is considered adulterated at the present time by the Federal Food and Drug Administration. If no rinse is employed to remove quaternary before using equipment, the milk produced may pick up small quantities of quaternary from the equipment. A water or hypochlorite rinse before use will remove almost all traces of quaternary. A hypochlorite rinse is considered preferable to a water rinse in some instances where water of questionable purity is used since the hypochlorite destroys the undesirable bacteria in the water.

Plant Sanitizing

Milk plants may be sanitized after cleaning or just before use as outlined above for the farm operations. The same precautions apply to applications of quaternary for plant use. The residual bacteriostatic effect of quaternaries is a valuable asset in preventing growth of bacteria on plant equipment while it is idle, especially for surfaces that are difficult to dry. Large tanks and tank trucks can be effectively sanitized in this manner by brushing or spraying on the sanitizing agent. Care must be observed to remove all traces of cleaner where detergents with incompatible constituents are employed for the cleaning procedure. Another milk plant operation where the quaternary properties enable their application is in the sanitizing of milk cans after washing. A quaternary solution can be injected into cans at the steam position in order to leave a bacteriostatic film of quaternary on the can during the long interval that is required to return it to the producer.

The cleaner sanitizers consisting of quaternary plus nonionic wetting agent and compatible phosphates and other cleaner ingredients now are being used extensively in some parts of the country. They have been successful in many instances in reducing numbers of thermoduric bacteria in raw milk supplies. There has been much confusion and misinformation relative to the methods of application and their success. In most instances they have not shortened the sanitation operation as much as was originally hoped. However, there does appear to be a place in the farm sanitation program for such compounds and they undoubtedly will receive increasing acceptance throughout the country.

A NEW PLANT FOR THE McARTHUR JERSEY FARM DAIRY



"THE McARTHUR JERSEY FARM DAIRY NEW PLANT AT MIAMI, FLORIDA, ONE OF THE MOST MODERN UP-TO-DATE PLANTS IN THE COUNTRY, WILL BE COMPLETELY EQUIPPED WITH CONVEYOR SYSTEMS"

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CONNECTICUT WINS EASTERN

Preview of Judging Teams At Eastern States Exposition Shows Nutmeggers Far Out In Front

University of Connecticut swept the field in the annual collegiate student judging contest in dairy products held at the Eastern States Exposition in Springfield, Massachusetts. Paced by W. E. Parkin and Stan Ruxton who captured first and second places in the All Products class, Connecticut took three firsts and a second as a team. Graham Hall, third man on the Connecticut team placed fourth in All Products.

Connecticut was first in Ice Cream, Milk, and Cheese and was second in Butter. Bruce Scott and H. F. Doseger of Ontario combined their talents to nose out the Connecticut boys by 2 points in this class.

Parkin and Ruxton put on a real show. Parkin garnered two first and two thirds while Ruxton took a first, a second, a fourth and a fifth.

Runner-up to Connecticut was Ohio State with a second in Cheese, a fourth in Milk, a second in Ice Cream, and a fourth in Butter.

An international cast was given to the contest by the presence of a team from Ontario, Canada. Represented by Bruce Scott, H. F. Doseger, and John M. Nicol, the team gave a good account of itself and finished up third, two points behind second place Ohio.

A one-two performance in Cheese was Ohio State's best contribution of the afternoon. George Scott captured first place in the event by virtue of a slim .75 points over his team mate Don Sickafoos. Connecticut matched and even bettered this performance by placing one, two in Ice Cream and one, two, three in Milk. Ruxton, Hall, and Parkin finished in that order in this product.

Connecticut's victory by such a decisive margin enhances its already established position as a formdable contender for the national title. The intercollegiate contest to be held at Atlantic City on October 16 brings the top teams in the country together.

COLUMBUS GETS NEW EXEC

The appointment of Fred J. Greiner as Secretary of the Columbus Milk Distributors Association was announced by the Board of Trustees of that organization this month.

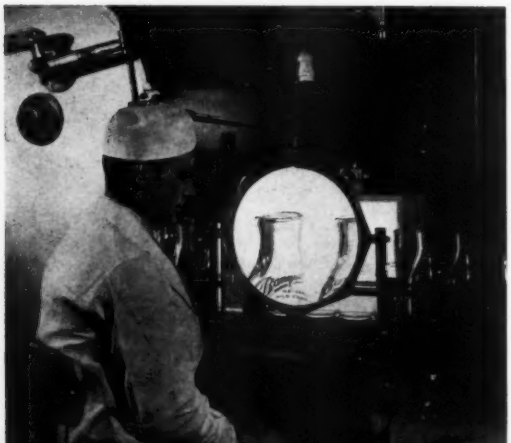
Greiner, the son of Fred Greiner, Sr., Greiner Dairy Co., of Zanesville, Ohio, is a graduate of the Department of Dairy Technology at Ohio State University and a member of Gamma Sigma Delta honorary fraternity.

Until March of this year Greiner served as Extension Specialist in Dairy Technology at Ohio State University. In this position he was program supervisor of the Ohio Cream Improvement Program sponsored by the Ohio Butter Manufacturers Association.

He came to Columbus from Supreme Dairy in Alliance.

Greiner replaces Ward K. Holm who is leaving to become Executive Secretary of the Colorado and Denver Dairy Products Association.

What's In *Your* Bottles?



BOTTLE SCOPE *Gives you the answer*

With a Bottle Scope on your conveyor line, you know EVERY bottle is clean and sound-free from cracks, chips and foreign matter. Bottle Scope affords a highly magnified view of the bottle from the top, to and through the bottom. No mirrors to distract inspector. Light source is easy on eyes — powerful yet non-glaring. Magnifier is 14" diameter optical glass. Light box 16 gauge steel finished in baked enamel. Shock proof connections and switch. Solid brass adjustab'e bott'e guides. Fits any standard conveyor. Requires but 22" of space.

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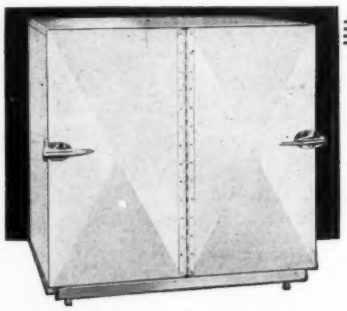

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- Moderately priced.

● Here is a truck refrigerator that affords all of the "most-wanted" features. This quality box features lifetime, all aluminum, airplane type construction . . . riveted for super strength. Nickel plated screws and stainless steel hardware make the entire assembly rustproof. Double than normal insulation gives you maximum cooling efficiency and economy. Fifty pounds of ice maintains a 44° temperature for 30 hours in a 96° outside heat. Best of all, the Hollingsworth Truck Refrigerator is designed for complete space utilization. Model illustrated fits contour of Divco Truck Body.

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AUGUSTE GAULIN

(Continued from Page 32)

the homogenizer. The improvement in the product was so pronounced that demand climbed at a breath taking rate. The industry grew from a small local affair dominated by home freezers to the mammoth business of today. Almost one hundred per cent of the huge 630,000,000 gallon output is made from homogenized ice cream mix.

In the meantime the possibilities of the homogenizer in the evaporated milk field were being explored. In 1908 experimentation had progressed sufficiently to convince evaporated milk people of the value of homogenization to their industry. The first homogenizer in the evaporated milk industry was installed at Wauson, Ohio, by the Van Camp Milk Company. This was in 1908. A second machine was purchased by Libby, McNeill and Libby in Morrison, Illinois, a few months later. By 1912 homogenizers had become generally accepted equipment in the evaporated milk industry. The great virtue of the machine to evaporators was its ability to minimize butterfat separation, a problem that had always been troublesome.

Strangely enough the segment of the industry where homogenization offered the greatest possibility was the last to make any great use of Augusta Gaulin's invention. As late as 1938 most of the homogenization was being done in ice cream and evaporated milk plants. In spite of the spectacular demonstrations on the *Oropesa* and by Count Berg the process was employed extensively only in manufactured products.

The Children's Hospital in Philadelphia had been interested in homogenization for some time. A series of experiments run by the hospital in 1938 showed clearly the greater palatability of milk subjected to this process as well as on increased digestibility. A direct result of this report has been a steady increase in the demand for homogenized milk. As the dairy industry stands at the mid-century mark, more than fifty per cent of all the fluid milk sold in the United States is homogenized. In some of the larger cities the figure is closer to eighty per cent.

It is difficult to assess the influence of Gaulin's invention on the dairy industry. Certainly the increased consumption of ice cream may be ascribed to the vast improvement in the product as a result of the homogenization process. There has been a tremendous increase in the consumption of fluid milk since 1938, the year that the Children's Hospital issued its report on the value of homogenization of fluid milk. To be sure the presence or absence of a cream line is still subject to heated argument by partisans of one school or another. But this is the healthy debate that accompanies any great transition in the affairs of men. The fact of the matter is that in fluid milk, as in other dairy products, the homogenizer has brought about a distinct improvement in the finished product. For years milk was sold on the basis of health. It still is sold that way, but, because an energetic Chevalier de la Legion d'Honneur had an idea and a spark of genius, it is also sold as a delicious, smooth, energizing beverage.

Voila, m'sieu, it is—shall we say—the homogenize.

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Mich. Agri. Exp. Sta.—*"Clipping the hair from flanks and udder will reduce bacteria count of milk as much as 79%."*

Leading Health authorities say: "A regular clipping program means more wholesome milk and increased profits for everyone. It is an essential step in the production of quality dairy products."Clipping reduces sediment, lowers bacteria, avoids contamination and helps in the control of lice, ticks, etc., which greatly affect milk production. Encourage this good dairy management practice. Educational helps, circulars and visual aids are available to help you in your program.

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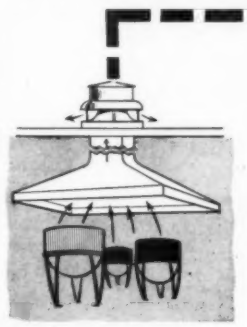

- Positive
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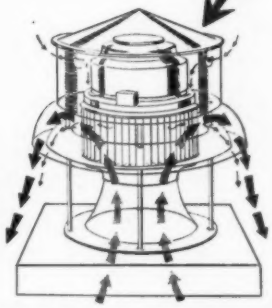
- Safe



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Capacities 100-12,000 CFM. Static pressures to 1¾". Ratings tested and certified by an independent laboratory. Low silhouette ideal for modern architecture. Heaviest construction throughout.

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XUM

EVERY-DAY DELIVERY

(Continued from Page 70)

milk plants to process good dairy products, which has helped us to eliminate part of our costly delivery costs.

The keeping quality of good farm produced and properly plant processed milk can't be questioned. It might be well to re-read a survey run several years ago by Ohio State University on the keeping quality of milk before we start delivering early and start believing that people need milk daily.

Three day delivery seems the most economical, the most sensible, and I believe, liked by the most people, because the customer knows exactly which day she is to receive her milk. It also pleases the men because it allows them each Sunday off.

The Driver's Responsibility

Any man applying for a route job should realize that he must be a good healthy, strong, honest, hard-working man with some sales ability, that it is his responsibility to replace lost customers as soon as possible, and that he must sell all customers all the dairy products they need.

Too many men in applying for one of these jobs, use the argument that they like truck driving and outside work. I admit that the man must be a good truck driver, but if he doesn't know how to sell or get along with people, he doesn't belong on a route. Also, straight farm work offers the best outside work I know of.

The driver must be made to realize that the company must have a fair profit, as he must have a fair wage, that if he is careless in his collections, in his deliveries, on returned bottles, in his driving, or is satisfied with a small route, eventually he and his company will be in trouble.

The number of routes isn't important in itself, but the number of profitable ones is. We need large, profitable routes. The driver must also be told that he must give a fair day's work for a fair day's pay if retail delivery is to compete satisfactorily. It is his job to explain to his customers that he can't be at every customers home at 7 A.M., or that he can't have good working conditions and be through at 7 A.M. Many of these customers asking for their milk before 7 A.M. would object to their husbands going to work at 11 P.M. so that they could be through with their day's work at 7 A.M.

> The Urner-Barry Company, publishers of the "American Milk Review" will occupy Booth 455. We hope that you'll drop in and see us.

A few customers buying on off days from two dairies seems preferable to giving 4 day or 6 day delivery to a few special customers. It is fortunate that the majority of the customers don't want the bother of daily delivery or another milk man on the odd day.

The drivers should keep continually reminding their customers to remove the milk to the refrigerator as soon as possible, explaining that heat and light impair the flavor. This seems more sensible and practical than a brown bottle. A brown bottle suggests that the driver and customer can both become careless in the handling of their milk after delivery and while using in the home, and all good operators know better.

Most customers will cooperate if an honest, intelligent presentation of the problem is made.

The Union Leader's Responsibility

If your company or industry has a union, the company must admit that the company's operating policies are affected by the union and it's leader. But at the same time, if the union represents the men working for a company, then this same union and it's leader have a *definite responsibility* to the dairy industry. More consideration must be given by these men to what is good for the dairy industry. The customer will not continue to pay and pay for inefficiencies, even if her delivery man is a union man.

What good is a union contract if the industry is injured to the extent that a company can't operate efficiently? This means in the future that we must have honest and fair leadership on the part of both management and labor, with the true idea of helping to keep our industry healthy and efficient.

If these suggestions are followed, the farmer should get his fair share, the dairy a fair profit and the men should enjoy reasonable and fair working conditions at a fair wage, the customer will continue to appreciate home delivery and will be satisfied with every other day delivery, or three day delivery, providing she thinks she is getting one dollar's worth of milk or service for one dollar.

'FRIGIDRY' Reg. U. S. Pat. Off.
GBI Reg. U. S. Pat. Off.
DAIRY CULTURES
Save Time—Save Money—Avoid Trouble. Use rapid-growing 'Frigidry' cultures to produce mother culture in one generation and take guess work out of making good buttermilk, butter and cheese.
FREE *Write for Booklet No. 206 on production of Cultured Dairy Products.*
GENERAL BIOCHEMICALS, INC.
25 LABORATORY PARK • CHAGRIN FALLS, OHIO
LYOPHILIZED* for UNIFORMITY • VIABILITY • STABILITY
*New, high-vacuum, sub-zero drying process.

THIS IS IT! THE PERFECT GONG UTILITY BRUSH T-10

Special Nylon Bristle
Securely wire drawn
Holds water and cleaning solution
Hard rubber block
Full size, 2" trim
Money back guarantee
It's longer lasting, labor saving
Reasonably priced
Write Brush Dept.
G. C. BRINKMAN COMPANY
HARTFORD 1, CONNECTICUT

THREE-DAY DELIVERY

(Continued from Page 66)

There are certain problems for the distributor involved in going to three-day-a-week delivery. Probably the biggest one is the uneven distribution of loads. Of course, you do have this problem in every-other-day delivery but in three-day-a-week delivery your Friday and Saturday loads would tend to be heavier than normally would be desired. We made a survey of this problem in the Columbus market:

RETAIL DELIVERY SURVEY MADE IN COLUMBUS—SEPTEMBER, 1949

	Average Points per Day M-W-F	T-T-S	Percent of 3 Day Average
Monday	590		92
Tuesday		584	92
Wednesday	570		89.3
Thursday		566	89.2
Friday	754		118.2
Saturday		752	118.2
Average	638	634	100.0
Average customers per man			450
Average customers per territory			225
Average points per customer per week			8.3

You will note from this survey that using the average number of points per day which was 639 points for the Monday, Wednesday and Friday routes and 634 points for the Tuesday, Thursday and Saturday routes that we delivered a little over 118% of the average on Friday and Saturday and on Wednesday and Thursday we delivered a little under 89% of the average.— 118%–89% of the average delivery. Or another way of looking at it, we deliver 15% of the week's sales on Wednesday and Thursday and slightly less than 20% of the week's sales on Friday and Saturday.

In case there is anyone who does not understand what we mean by a point in Columbus, a point represents either: 1 quart of milk (any kind), orange drink, ½ pint of coffee cream, 1 pound of butter, 1 pound of cottage cheese. Two points: ½ pint of whipping cream, 12 ounce jar of salad cream.

I thought it might be of interest to you also to know the average number of customers that each of our men serve.

So that you will appreciate that this uneven distribution is not unique to our three-day-a-week delivery, in Chart 3 I show the distribution of our loads by the old seven-day-a-week delivery where we delivered 113% of the average on Sunday and our six-day-a-week delivery where we delivered 179% of the average on Saturday and then our every-other-day delivery where we delivered 107% on Saturday and 103% on Sunday and then the first two years of our present three-day-a-week delivery plan we showed 107% to 105% of the average on Friday and Saturday respectively.

Weekend Load Heavy

The present percentages have prevailed for the past two years but our dealers are hopeful that they will be able to lower the percentage of milk delivered on Friday and Saturday but whether or not they can is the question.

Another factor to consider in going to three-day-a-week delivery is that it will take a few more bottles and more cases due to the fact that you will have this larger delivery on Friday and Saturday. In other words, under three-day-a-week delivery your inventory will be greater than under EOD. It is estimated that it takes about 1 to 2% more bottles. Along this same line, on Monday and Tuesday and Wednesday and Thursday too to some extent, you have a much larger supply of bottles and cases in your plant and this requires a little larger storage space for the empty bottles and cases.

Another problem involving cases is that you deliver a big load of milk on Friday and Saturday and then on Monday and Tuesday you deliver a comparatively smaller load of milk but you have this return of the Friday and Saturday bottles so that you will need more cases on Monday and Tuesday to bring the bottle back than you would to take the full bottles out. Many of our salesmen in Columbus have developed the system of leaving part of their empty cases from Friday and Saturday out on the route which they will pick up on Monday and Tuesday as they need them. There is always a question but no evidence to support it that the dealers might be losing cases by this procedure but apparently this is not so. Of course, there is the other angle of the unsightly appearance of the cases spread out around the different communities.

COMPARISON OF DIFFERENT RETAIL DELIVERY PLANS USED IN COLUMBUS

	Seven Day Delivery 1940	Six-Day Delivery 1941	E. O. D. Delivery 1942	Three-Day Delivery 1943-45	Three-Day Delivery 1949
Monday	96%	121%	99%	102%	95%
Tuesday	96%	102%	94%	96%	95%
Wednesday	100%	100%	97%	96%	88%
Thursday	99%	99%	99%	94%	88%
Friday	97%	99%	101%	107%	116%
Saturday	99%	179%	107%	105%	115%
Saturday	99%	179%	107%	105%	115%
Sunday	113%	0%	103%	0%	0%
Average	100%	100%	100%	100%	100%

See the NEW
WASHING EQUIPMENT
at Booth 514
Dairy Industries Exposition
THE SCHLUETER CO.
JANESVILLE, WIS.

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SOCIAL SECURITY

(Continued from Page 50)

meaning to the businessman. If his business does not now have a private pension plan for his employees, the increased benefits under the Social Security Act may reduce the need for such a plan. When Social Security benefits were less adequate, many businessmen felt an obligation to provide a company pension for their employees. And in recent years, labor unions have stepped-up their pension demands. As a matter of fact the unions regard their pension victories as one of the strongest factors influencing the passage of the new Social Security Act. Now that the Act is passed and its benefits are far more adequate, the pressure behind the pension drive may be expected to diminish somewhat.

On the other hand, where a private pension plan is already operating, the businessman would be well-advised to have a careful review made of that private pension plan in the light of the new situation. The private pension and Social Security should be related to each other. It is wasteful to have them overlap. For the same expenditure of funds, it may be possible to provide greater protection. Or, now that Social Security is carrying more of the burden, it may be possible to make some cost savings.

●

HURRY - HURRY - HURRY

(Continued from Page 22)

urday 1:00 p.m. finale.) It is on Wednesday evening that there will be the grand massing of State flags on the Skyway of the States. The flags are being presented by various State and regional dairy industry associations and in the ceremony will be accompanied by color guards of key members of these important groups from all the sections of the continent.

Following the flag ceremonies Dairy Industries Society, International will hold open house in its International Lounge, where throughout the week, moreover, it will sponsor a social hour daily at 3:00 p.m. The International Lounge will occupy Lookout Point, below the Skyway of the States, and fronting the entrance to the Exposition restaurant on the ballroom level of the building.

National Dairy Council and American Dairy Association will present important educational displays, and several other industry or governmental educational exhibits will also be found in the Exposition. One featured display will be presented by the Sanitary Standards Sub-Committee of Dairy Industry Committee.

DISA Show Staff

DISA's Show staff is DISA's normal headquarters staff, re-inforced with temporary personnel. Roberts Everett, DISA's Executive Vice President, veteran industrial Exposition manager as well as veteran trade association executive, is general manager. George F. Rowe, DISA's Secretary, is assistant manager. Other members of DISA's regular staff assume these Show duties: Helen Dodge, administrative assistant; Robert J. Hanger, displays; James D. Shaw, registration; Beatrice M. Prescott, credentials; Tom Jones, public relations; Margaret Cannon, hostess, Old Timers' Area; Myrtis F. Watt, DISA's assistant treasurer, accounts; E. Lang, exhibitor's services.

Thelma K. Detwiler, Marjorie McElroy, Marie Perrell, Irma Einheber and Ann Bryant, of the DISA permanent staff have important preparatory and at-the-Show duties also. Frieda Everett, not a regular staff member applies, a newswoman's and publicist's experience to Show special events.

"We have never computed either the man hours or the different sorts of 'motions' that go into the overall planning and staging of the big Show," a staff spokesman explains. "Counting the efforts of Committeemen and staff members the totals in either computation would call for a lot of digits. Everyone who has responsibility in the Show's overall management shares in a pride in the Show's being run well."

Exposition Committees

Serving on the Association's Exposition Committees, which keep close control over all of the Exposition's doings will be: *Exposition Committee*, Ralph L. Young, Urner-Barry Company, Chairman; R. D. Britton, Wisner Mfg. Co.; S. E. Crofts, Batavia Body Company; R. E. Francis, The Pfaudler Co.; L. N. Lucas, Bastian-Blessing Co.; H. L. Miller, Chester-Jensen Company, and Earl Weed, Foote & Jenks, Inc. *Exposition Attendance Promotion Committee*, S. E. Crofts, Chairman; N. D. Grasty, The Crown Cork and Seal Company; F. G. Jones, The Creamery Package Mfg. Co.; L. Z. Mathany, Foote & Jenks, Inc.; George W. Peck, Thatcher Glass Mfg. Co., Inc.; Rex Paxton, Sutherland Paper Company; William S. Stinson, Cherry-Burrell Corporation. *Exposition Credentials Committee*, L. N. Lucas, Chairman; Emil Howe, Waukesha Foundry Co., Vice Chair-

Better DRY MILK

AT LOWER COST

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DRY MILK MACHINES
Built in Five Sizes

The Patented, glass-smooth, "20-year cylinders" give years and years of maximum production of a superior dry milk at the lowest possible cost.

Many other exclusive features insure long life with low steam and power costs. Complete details upon request

OVERTON MACHINE COMPANY

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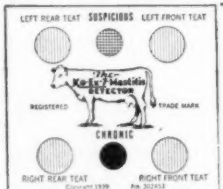

The POSITIVE Way
TO DETECT
MASTITIS

Milk from a mastitis cow is the product of a diseased animal. Therefore it is adulterated. (See Sec. 402-A-5, Federal Food and Drug Law.)

Have your Producers test every cow regularly with those Accuracy Attested —

FREE SAMPLE AND PROOF WRITE TODAY

KO-EX-7 Brom Thymol Mastitis DETECTORS

STERLING RESEARCH CORPORATION

DAIRY DIV. A-1 BUFFALO 3, N. Y.

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man; A. C. Beall, C. M. Pitt & Sons Co.; P. W. Budworth, Frigidaire Div., General Motors Corp.; C. F. Dawson, Dixie Cup Co.; Walt Disney, Ex-Cell-O Corp.; H. P. Faust, R. G. Wright Co., Inc.; David M. Mojonnier, Mojonnier Bros. Co.; O. P. Petran, Krim-Ko Corp.; H. R. Stickel, the White Motor Company; E. W. Weiller, The Weiller Co. *Exposition Floor Committee,* Earl Weed, Chairman; Ray Martin, Nash-Kelvinator Corp., Vice Chairman; R. L. Batchelor, Lathrop-Paulson Co.; R. D. Britton; T. A. Burress, The Heil Company; Paul Girton, Girton Mfg. Co.; L. V. Keefe, Lily-Tulip Cup Corp.; H. L. Solie, General Dairy Equipment Co.; V. K. Shuttleworth, American Can Company. *Exposition Hotel Committee,* H. L. Miller, Chairman; George A. M. Anderson, The King Co.; R. E. Baker, Aluminum Company of America; R. W. Blodgett, Mid-West Bottle Cap Co.; R. D. Britton, C. A. Rogers, C. E. Rogers Co. *Exposition Traffic Committee:* R. E. Francis, Chairman; F. H. Egner, The Sharples Corporation; J. E. Haynes, Frigidaire Division, General Motors Corp.; Sidney Kritzler, Joe Lowe Corporation; C. S. Latshaw, Thatcher Glass Mfg. Co., Inc.; W. S. Nevius, Wyandotte Chemicals Corp.; John Norton, The Heil Co.; E. J. Ortciger, Liquid Carbonic Corporation; Walter C. Pine, The DeLaval Separator Co.; J. G. Robison, Pennsylvania Salt Mfg. Co.; O. Strauch, Henry Vogt Machine Co.; J. K. Sullivan, Manton Gaulin Mfg. Co., Inc. *Entertainment Policy Committee,* R. D. Britton, Chairman; D. H. Carter, Nash-Kelvinator Corp.; L. W. Chapin, Vanilla Laboratories, Inc., Walter G. Dixon, Marathon Corp.; H. I. Edwards, The Pfaudler Co.; L. V. Keefe, Lily-Tulip Cup Corp.; E. F. McCormack, S. H. Mahoney Extract Co.; Harry Mulholland, John H. Mulholland Co.; N. H. Thomas, Joe Lowe Corp.; R. B. Wilhelm, Owens-Illinois Glass Co.

●

INDUSTRY PROBLEMS

(Continued from Page 34)

plug can be removed by first flushing with warm water (110°F.) and finally with water above 160°F.

This problem can be prevented by starting the machine when the lines and bowl are filled with water but the feed pump is shut down. After speed is obtained, the pump is started and milk fed through. The cream valve is then set to give the required fat test in the cream. Never start the machine when it is filled with milk.

In shutting down it is important that the last milk be pushed through with water, otherwise the churning will occur, resulting in a plug and consequent loss of fat and time.

Any condition leading to even partial churning of the milk before it reaches the separator will also cause plugging because butter particles will be retained until a plug is formed.

Some pumps will cause partial churning, especially at high speeds, and freezing of the milk or excessive agitation must also be avoided.

●

IMPORTANCE OF AVERAGES

(Continued from Page 44)

reach, even though he'll probably never get there. And instead of viewing his 43% spread with a self satisfied smirk, he should examine closely into the reasons for it, and aim higher and higher, not feel that he's good, because the "average" dealer's spread is less.

We know a dealer who was biting his nails because his depreciation expense is a good bit higher than that of the "average" dealer in his territory. He didn't want his depreciation expense to be higher than the average. When he stopped to realize why his depreciation was higher, that he had practically a new, modern, plant, a high cost one true, and that his economies of operation and the new business he was able to get as a consequence more than offst his higher depreciation, he didn't worry as much. It would have been the easiest thing in the world to adjust his depreciation rates down, to bring his cost in line with the average dealer, which would have had the probable result of slowly putting him out of business with his head in the clouds. Here again, the average means nothing. It is only his own figures, in relation to others in his own operation, that mean anything. And they mean everything.

When you next see an average figure for bottle trippage, average spread, average labor cost, average plant loss, whether the averages are simple, arithmetically weighted, logarithmic, median, modul or something even fancier, don't think that you must lose sleep over the fact that your own figures don't correspond. You're not an "average" dealer, and you don't want to be. And never forget how the "average" voter crossed up Messrs. Gallup and Roper in 1948. You just can't trust the guy.

41 YEARS IN THE DAIRY INDUSTRY

Here's what it can do for YOU!

★ **Dairy engineers with plenty of "know how" to help you with your problems.**
Three of them with an average of 24 years experience in the Industry.

★ **Sales engineers with competent and long experience are in touch with you at all times.**
Use the experience of these men. They are at your service.

★ **Highly trained service mechanics to simplify your installations and maintenance problems.**
Four have an average of 30 years experience each in the Dairy Industry.

★ **Ample stocks to meet your emergency needs.**
More than 20,000 square feet of floor space devoted exclusively to serving the Dairy and Ice Cream Industries.

★ **Modern lines of equipment and supplies to fit your needs.**
Chester-Jensen, Continental Equipment, De Laval, Diversey, Girton, Johnson & Johnson, King Zeero, Pfaudler, Manton Gaulin, Rice & Adams, Sealright, Thatcher, Tri-Clover, Waukesha, York, and many others.

VISIT US AT OUR BOOTH 450 AT ATLANTIC CITY

WISNER MANUFACTURING CORP. 122 HUDSON STREET NEW YORK, N. Y.

USING OUR SEPARATOR

Mathieson to Show Bactericide

MATHIESON Chemical Corporation will be a major exhibitor at the 1950 Dairy Industries Convention at Convention Hall, Atlantic City, New Jersey, the week of October 16.

Lobax-21, a new bactericide, will be exhibited for the first time. Mathieson Dry Ice will also be exhibited in booth 659.

Representing Mathieson will be A. E. Wennerstrom, G. B. Armstrong, E. S. Jeltrup, P. J. Gallizzo, J. G. Johns, F. W. Thomas, C. G. Green, A. C. Folsom, J. C. Bennett, J. J. Tepas and R. Sommers.

●

Research Gundlach Feature

G. P. GUNDLACH & Company, Cincinnati merchandising and research consultants to the dairy industry, will have a special exhibit demonstrating its numerous research developments in the milk, ice cream and dairy products field.

"Few realize how extensive the dairy industries are," Gundlach, President of the Cincinnati firm, advised. "One of every 15 workers in the United States is concerned, in someway, with the production, collection, processing or distribution of milk and its varied products."

He added that "the annual retail value of all U. S. milk and dairy products is approximately $8,000,000,000."

The exposition will attract between 20,000 and 25,000 persons associated with the American and Canadian dairy industries, as well as several hundreds from overseas.

●

"Mixie Dixie" Dixie Feature

DIXIE CUP COMPANY's exhibit in Convention Hall will feature a display of special print Ice Cream Dixies, the new "Mixie Dixie," and the new Matchline of fountain equipment. A continuously operating slide projector will tell the Ice Cream Dixie Merchandising Story in full color. Company representatives at the Convention will be H. Moore, Chairman of the Board; C. F. Dawson, President; W. G. Genne, Vice-President and Sales Director; S. M. Sawyer, National Sales Manager, Food and Vending Divisions; and F. E. Piercy, Food Container Sales Manager from Canada. Food Container Specialists in attendance will be: E. R. Woodfin, R. A. Ostram, E. Linzey, H. B. Hustwick, M. M. Keith, E. W. Smith, H. S. Burkhardt, J. W. King. Dixie's Export Division will be represented by A. R. Lillicrapp, Vice-President and Export Manager; W. S. Brong, and A. B. Hart.

It is next to impossible to list all of the exhibits that will be on display at the Dairy Industries Exposition in Atlantic City. However, we have received advance word of some of these presentations and take the opportunity of giving you what previews are available. See you at the show.

●

Foxboro To Show Control Instruments

THE CONTINUOUS advance of automatic control instrumentation for the Dairy Industry will be reflected by the numerous operating instruments shown in the exhibit of The Foxboro Company, Foxboro, Mass., in Booth 1456 on the lower level.

A conspicuous feature will be an actual working demonstration of HTST pasteurizing, using transparent piping and equipment, and with the plate-type pasteurizer actually under the fully-automatic control of standard Foxboro HTST instruments. Five different Foxboro instruments will thus be seen in operation. They are:

(1) The Pasteurlog, which operates the flow diversion valve, makes a chart record of valve operation, and records milk temperature. The Foxboro Rotax (electric) control system of this instrument permits precise adjustment of the diversion point.

(2) Heater Temperature Controller, maintaining correct water temperature in the heating section of the pasteurizer without auxiliary steam pressure control, a feature made possible by the Foxboro-developed proportional-with-reset control system.

(3) Brine temperature Controller, controlling the cooling section of the pasteurizer, with positive protection against freeze-ups.

(4) Cold Milk Recorder, recording the temperature of milk leaving the cooling section of the pasteurizer.

(5) The Dynalog HTST Electronic Timer, for quickly and accurately measuring the holding time on actual milk with turn-of-a-knob simplicity and without interference with plant operation or other equipment. The Dynalog is a fully-electronic instrument, simple but sturdy in construction, and designed for extreme precision and fast action.

Other equipment to be shown, some in simulated operation, will include a Multi-Record Dynalog Recorder, making up to six simultaneous records on one chart, in different colors, for applications such as holding vats and storage tanks; High-Speed Dynalog Receiving Platform Temperature Recorder; round-case, rectangular case, and mercury-in-glass types of pasteurizing thermometers; Model 41 Indicating Controller, for temperature or pressure applications, such as on preheaters or bottle washers.

Bulletins will be available describing Foxboro's complete line of instruments for Dairy Industry requirements. A staff of engineers from the company's branch offices will be on hand throughout the Show, to welcome friends, old and new, and to explain the exhibit, or to furnish any desired information regarding the instrumentation of modern milk plant operations. The men in charge of the booth will include: Ross N. Perkins, Manager, Dairy Industry Sales Divis-

ion; Wendell S. Young, Sales Engineer, Dairy Industry Division; William W. Nelson, Sales Engineer; Robert E. Beers, Sales Engineer; Roger W. Ford, Sales Engineer; John E. Booth, Sales Engineer; Joseph Esherick, District Manager; Galen E. Clark, District Manager; Marvin L. Cleaton, Jr., Sales Engineer; J. Edward Ayers, Sales Engineer.

●

Creamery Package Exhibit

THE CREAMERY Package Mfg. Company is looking forward to greeting 1950 Dairy Industries Exposition visitors at one of the largest exhibits of the Atlantic City show.

CP Machinery and Equipment comprises a complete line of apparatus for the processing of dairy products in all forms: Market Milk, Ice Cream, Butter, Cheese and kindred items.

Included among the featured items in the Creamery Package exhibit (Booth 550) will be CP Multi-Process Tanks, CP Full-Flo H.T.S.T. Plate Pasteurizer, CP Multi-Pass Plate Cooler, complete ice cream making equipment with CP Continuous Freezers, CP Heavy-Duty Fruit Feeder, and the CP Pneumatic Elevating Ice Cream Can Filler, CP Stainless Steel Utility Table, CP Stainless Steel Top Work Table, CP Roto-Seal Pump, CP Wizard Cold-Hold Tank with Refrigerated Bottom, CP Multi-Flo Homogenizer, Stainless Vacuum Filler and Capper, CP Stainless Steel Take-Down Capping Heads, and CP Ammonia Refrigerating Machinery including 2 and 6 cylinder compressors, and CP Emery-Aggregate Flooring.

Present at the Exposition will be CP Branch Managers and Sales Representatives from coast to coast. Among the company's officials attending will be President and General Manager, G. E. Wallis; Vice Presidents, E. B. Lehrack and G. W. Putnam; J. L. Brazee, Director of Machinery Sales; D. C. Lightner, Sales Manager; O. P. Heller, Secretary and Director of Sales Service; O. H. Selander, Export Manager, R. V. Thomas, Director of Factories; A. H. Wakeman, Director of Research; H. S. Dixon, Patent Counsel; H. W. Nellist, Manager of Creamery Package Mfg. Co. of Canada, Ltd. and F. G. Jones, Advertising Manager.

●

Large Cherry-Burrell Display

CHERRY-BURRELL Corporation, manufacturers of dairy processing equipment and supplies, will have their exhibit in Booth 1120 which is located in the basement of the huge convention hall.

Many items from the extensive line of Cherry-Burrell equipment will be on display. Features of the exhibit will be a display of branch engineering and the new model of the continuous butter churn. The engineering exhibit will make use of the equipment models that the company has developed for use in solving problems of plant layout.

More than seventy company representatives will be on hand to conduct visitors through the company's exhibits. All of the firm's fifteen branches will be represented and in addition a sizeable delegation from Cherry-Burrell, Ltd. of London will be on hand.

Top company officials at the show will include John W. Ladd, President, Loomis Burrell, Chairman of the Board, W. S. Stinson, Advertising Manager, Carl Wood, Sales Manager, E. L. Slayton, Sales Manager, Machinery Division, Frank Clark, Manager and Director, Cherry-Burrell Ltd., London, and Charles C. F. Weinreich, Director of Research.

●

Owens-Illinois Exhibit

GLASS and its contribution to the dairy industry will be the theme of the Owens-Illinois Glass Company's exhibit. Highlight of the booth which will occupy space No. 414 will feature the Duraglas Handi-Square milk bottle family displayed on a lighted turntable. Other featured items will include Libbey tumblers, amber milk bottles, dairy products jars, Kimble glass products used by dairies, and other glass products manufactured by Owens-Illinois for the dairy industry. An illuminated three by five foot map of the United States will show locations of Owens-Illinois' plants and offices throughout the country. Glass theme will be carried out further by the use of Insulux glass block to decorate wall panels, Fiberglas fabric on other panels and chairs, and tables topped with plate glass. Representatives from the glass company's general office and branches will be on hand to greet dairy friends.

●

Girton Processing Vats

THE Girton Manufacturing Company, Millville, Pennsylvania, will feature their line of pressure wall processing vats, as well as an expanded line of stainless steel sanitary cleaning equipment. Emphasis has been placed by this company on a superior

New SHIRLEY MILK FILTER DISPENSER

● Provides more sanitary handling of filters. Patented pick-up takes only 1 filter each time, makes disc centering easy, quick. Extra strong steel cabinet, baked enamel finish, rust-proof hinges all assure long service. Holds complete carton of standard filters.

DEALER INQUIRIES INVITED

ALL WEATHER CABINETS

● Made in 3-4-6 qt. round or 4-6-8 qt. square bottle sizes. Heavily insulated on all sides, top and bottom. Steel construction. Send for sample postpaid cabinet and new low prices.

Shirley

ALL-WEATHER INSULATED CABINET
Reg. U. S. Pat. Off. No. 1900306

SHIRLEY MANUFACTURING CO. 1315 WOODRUFF AVE. - ROCKFORD, ILLINOIS

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standard of fabricating and finishing in the manufacture of these items.

"The ever-increasing stress which health authorities are putting on the maintenance of a high standard of sanitation in dairy equipment," stated Mr. Paul K. Girton, president of the company, "has led us to make available to the industry a No. 7 finish on stainless steel equipment at a very reasonable cost. We have succeeded in achieving this by using polishing equipment of advanced design and employing special techniques. The fine finish on the equipment will be readily apparent to visitors at our booth."

The Girton Booth will be located on Stage 3 on the main floor. Mr. Girton will be in personal charge of the display and will be assisted by a staff.

●

Klenzade to Emphasize Education

IN KEEPING with its wide-spread educational activities in dairy industry sanitation, Klenzade Products , Inc., Beloit, Wisconsin, will feature advanced cleaning and sanitizing techniques at the Klenzade Booth 230.

Special exhibits and informative material have been prepared on the Klenzade Farm Quality Program, Can Washing, Bottle Washing, High Temperature Cleaning, General Plant Cleaning, Ultra-Violet detection of soil deposits with "Mineralight," Fogging equipment for sanitizing tanks, chemical feeding with "Chem-O-Shot," and Field Testing equipment.

Special attention has been paid to presenting all exhibits in an educational manner, designed to bring the latest in modern sanitation techniques to all who may be interested. A representative group of the Klenzade technical staff will be on hand to discuss problems in sanitation, milk production and processing with interested parties.

●

Insect Control

THERE AIN'T gonna be no flies on you because after years of intensive laboratory research, Automatic "Insect Control"—the Twentieth Century's automatic answer to the age old problem of controlling flies, mosquitoes, gnats and flying moths indoors—has been perfected by Remington Products Corp., 410 N. Broad St., Elizabeth, N. J.

This newly developed scientific method of fly control works uninterruptedly—day and night—requires no labor whatsoever — operates simply, swiftly and silently in dealing death to flies—is odorless, stainless and does not affect humans, animals or foodstuffs.

Best of all, it is within easy reach of all who are plagued by insects; and, precludes the necessity of buying insecticides, insecticide sprays or insecticide bombs. It was developed under strict supervision and it contains no acetone or kerosene, as found in ordinary sprays. It will not stain walls, ceilings or furnishings.

Automatic "Insect Control" is an ingenious, simple mechanism that is thermostatically controlled to work automatically and vaporize a special formula insecticide. It is affixed to the wall about three feet below the ceiling and plugs into any standard AC or DC outlet. If doors and windows are closed during the night the premises will be free of flies in the morning; and, flies that enter during the day are killed in short order.

Automatic "Insect Control" is modern science's answer to the absolute control of flies, gnats, mosquitoes, etc. It protects against disease, spoiled food, etc. and brings cleanliness to store and factory. Automatic "Insect Control" units are sold through franchised distributors. This looks like the beginning of a "new" American way of life—at least, of American insect life.

●

SS Milk Cooler

McHALE Manufacturing Company, stainless steel specialists to the dairy industry, has recently announced the addition of new stainless steel milk coolers to their extensive line of dairy and creamery production equipment.

The stainless coolers are thoroughly field-tested and "lifetime" engineered; they are offered in sizes from 18-inches up, to accommodate all farm and creamery needs at prices under the prevailing market for this type of equipment.

Featuring the new "shallow ripple" design, McHale stainless coolers keep bacteria count down, save extra time normally needed for cleaning,

Kurly Kate
METAL SPONGES
Designed especially for cleaning all types of dairy equipment and utensils. Will not rust or splinter, cut the hands or injure metal or plated surfaces. Kurly Kate Metal Sponges are fast working, easy to use, and easy to keep clean. Made in STAINLESS STEEL, NICKEL SILVER and BRONZE.
GUARANTEE
Send for a trial order
Satisfaction fully guaranteed
KURLY KATE CORPORATION
2215 S. MICHIGAN AVE. CHICAGO 16, ILL.
Kurly Kate
stainless metal sponge
FOR EASIER INDUSTRIAL CLEANING
SOFT ON HANDS
SANITARY
ORDER FROM YOUR JOBBER OR WRITE DIRECT

and eliminate the need for brushes and steel wool. The new coolers are designed and built for use with direct-expansion refrigerants (methel chloride SO_2, ammonia, freon and etc.). Need for re-tinning and re-building is minimized with this new design, according to McHale engineers.

For further details, drop in at the McHale Company booth at the Atlantic City Dairy Show coming up or write attention of Horace Walker, 3200 East Mines Avenue, Los Angeles 23, California.

●

Insulated Equipment

"MR. MURPHY has a vault" is the title and subject of a new booklet on insulated products recently published by Remington Rand Inc. It tells the story of a businessman proud of the new vault constructed in his office.

The question is, in case of fire, who would put the papers into the vault? The answer is, no one, because of the layout of the office and the distances involved. Floor plans of Mr. Murphy's office reveal the shortcomings of his arrangement and demonstrate the many advantages of point-of-use safe equipment.

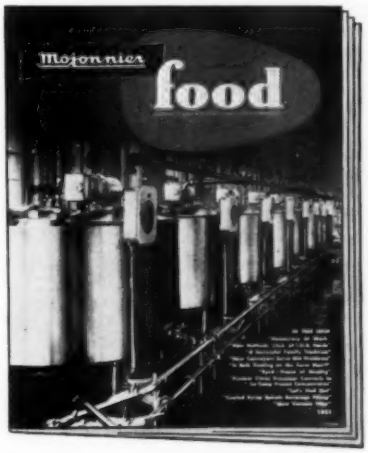
Illustrations include the construction features of Remington Rand Insulated Equipment, the company's furnace at Marietta, Ohio, where equipment is subjected to Underwriters' Laboratory and Safe Manufacturers' National Association tests.

To find out how Mr. Murphy solved his dilemma, write for booklet SC-679. It may be obtained from any Remington Rand Branch Office or from Remington Rand Inc., 315 Fourth Avenue, New York 10, N. Y.

●

New Edition of "Food"

"BULK COOLING of Milk on the Farm" and "Powdered Milk – Surplus to Shortage" are among the important dairy subjects discussed and illustrated in the new issue of "Food" magazine, published by Mojonnier Bros. Co. as a service to the Dairy Industry. New product applications and latest developments and techniques in dairy equipment, along with leading plant processing operations, all handled by well known technicians, make the new "Food" number one of the most interesting and informative yet produced. If you have not received your copy, be sure to write for it direct to Mojonnier Bros. Co., 4601 W. Ohio St., Chicago 44, Illinois. There is no charge.



Minicorder Charts

A CONTINUOUS RECORD of actual temperatures in refrigerated trucks, railway cars, warehouses, ships, and retail stores' units, is provided by the new Minicorder, a self-contained recording thermometer developed by the Tagliabue Instruments Division of the Weston Electrical Instrument Corporation.

With this new instrument, an accurate check of storage space temperatures is available to those engaged in the shipment, storage, or merchandising of commodities requiring refrigeration.

The Minicorder requires no connection to any power supply, yet records temperatures over a period as long as seven days without attention. A specially-developed shock-proof mechanism makes it particularly satisfactory for use in trucks, trailers, railway refrigerated cars and ships, where it can be installed with the cargo, without shockproof mounting, and depended upon to record an accurate graph of ambient temperatures over a seven-day period.

The new Tag Minicorder is a completely self-contained recording thermometer with a temperature range, in various models, within the limits of minus 30°F. to plus 165°F. Charts are availalbe for 24-hour, 72-hour, 3-day and 7-day recording. Special two-pen models are made for on-off recording of related equipment. The instrument measures 5¾" x 5¾" x 4¼", and weighs 3½ pounds. Remote recording types are also available.

For further information write "Tagliabue", in care of this publication.

EGG NOG PROFITS THE GUNDLACH WAY!

SEE US AT BOOTH 657 ATLANTIC CITY

G. P. GUNDLACH & CO. Box "A" CINCINNATI 3, OHIO

"Servants to the Dairy Industry"

WANTS and FOR SALES

Classified Advertising Rates

(Remittance MUST Accompany Order)

Position Wanted

50 word maximum, 50c — 2c for each additional word.

All Other Advertisements

Lightface type: 5c per word ($1.00 minimum).
Boldface type: 10c per word ($2.00 minimum).
(The name and address should be included in counting the words.)

Keyed Address

25c additional in the United States.
50c additional in Foreign Countries.

When replying to any of the following keyed advertisements please address replies to:

BOX NO. ..... AMERICAN MILK REVIEW
92 WARREN STREET NEW YORK 7, N. Y.

(The deadline for Classified Advertising is the 10th of the month preceding publication.)

No classified advertising will be accepted to run with borders or special spacing. All such advertisements are considered "Display" advertising and will be billed at regular display advertising rates. (Rates and mechanical requirements on request.)

EQUIPMENT FOR SALE

FOR SALE—5000 lb. Doering printer, reconditioned. 500 lb. Doering, complete, good. $600.00. Morpac Model JPE 1 lb. wrapper, new 1948. 200 gal. Damrow cottage cheese vat, SS lining, $250.00. 10,000 lb. Stoelting cheese vat, 18 ga. SS pan, with agitator, both very good, $1250.00 No. 192 DeLaval air-tight separator, SS bowl and Discs, price $3100.00. No. 136 DeLaval clarifier. 1 new 800 gal. Manton Gaulin homogenizer, SS head, at discount. Large double roll milk driers. Minnesota Creamery Company, St. Paul 2, Minnesota. 10-M

FOR SALE — 1 Fort Wayne 5 valve automatic bottle filler, A-1 condition $300.00. 1 Cherry-Burrell 4 valve hand operated bottle filler, A-1 condition. $100.00. Emil F. Zoll, Zoll's Dairy, St. Marys, W. Va. Phone 146. 10-M

SPECIAL OFFERINGS — 300 gallon Pfaudler Stainless Steel Rotorcoil Vat; 1000 gallon Pfaudler Glass Lined Storage Tank; 600 gallon Stainless Steel Line Cheese Vat; 125 and 300 gallon Model CGC Manton Gaulin Homogenizers. Write or wire your requirements. Lester Kehoe Machinery Corporation, One East 42nd Street, New York 17, N. Y. Telephone MUrray Hill 2-4616. 10-M

FOR SALE — Two Mojonnier Stainless Steel Cabinet Coolers, 8 wings each, 72 tubes high; 50 Gallon S.S. Weigh Can, Beam Scale and S.S. Receiving Vat; 100 and 200 gallon Round Stainless Steel Pasteurizers also 100 to 300 gallon Cherry-Burrell Spray Vat Pasteurizers; 6-18, G-70 G-100, G-160, G-240, GV-20 Cherry-Burrell Fillers; 4, 6 and 8 Wide Bottle Washers; Rotary Can Washers 3 and 6 c.p.m.; 75 to 1500 gallon homogenizers or Viscolizers; about 135 ft. Power Can Conveyor, also 20 ft. Power Case Conveyor with Booster and Power units; 600 gallon Pfaudler Glass Lined Jacketed Tanks for by products; Cherry-Burrell Churns, 300 and 600 lb. capacity; Model "E" Doering Butter Printer; 3 ft. to 6 ft. Stainless Steel (also Copper) Vacuum Pans. Write or wire your requirements. Lester Kehoe Machinery Corporation, One East 42nd Street, New York 17, N. Y. Telephone MUrray Hill 2-4616. 10-M

EQUIPMENT FOR SALE

REBUILT — Pasteurizers, Milk Coolers, Bottle Fillers, Ice Machines, Plate coolers and heaters. Send us your requirements. Ohio Creamery Supply Company, 701 Woodland Ave., Cleveland 15. 7-M-tf

FOR SALE — 1 used Cherry-Burrell Churn, capacity 200 lbs. butter, with 3 phase motor, all in fine condition; 1 Selb Refrigerated Dairy Show Case, self-contained. Sauquoit Valley Dairy Co., Inc., 491 French Road, Utica 4, New York. 10-M

FOR SALE — 2 5HP Bronze Centrifugal Pumps, 1 500 gallon Manton-Gaulin Homogenizer, 1 500 gallon Vertical Stainless Steel Storage Tank. For full particulars write: P. O. Box 1204, New York 8, N. Y. 10-M

FOR SALE — Girton D47H Empty Case Washer with pumps and 3HP 3 phase motor. Factory reconditioned. Washes round or square glass bottles with pressure wash and rinse. Single strand conveyor channel. Capacity 20 case per minute. 926 Miners Bank Building, Wilkes-Barre, Penna. 10-M

FOR SALE — 4F Heil washer for immediate delivery. 22 bottle per minute. Pockets need some repair $250.00. Peoples Dairy, Inc., 2237 Gay Street, Ft. Wayne, Indiana. 10-M-tf

EQUIPMENT WANTED

WANTED — Used boilers — high or low pressure. Any size or type. Also used smoke stacks, pumps and motors. Give full information and prices. Otto Biefeld Company, Watertown, Wisconsin. 10-M

BUSINESS FOR SALE

DAIRY - CREAMERY - ICE CREAM —New Modern equipped plant; established 30 years; manufacture 200 gallon ice cream month, capacity 5000; 25,000 pound butter month, capacity 50,000; retail route 300 stops, wholesale 200 stops; three trucks; retiring; sell complete; building optional. APLLE COMPANY BROKERS, Cleveland, Ohio. 10-M

MILK PLANT — 240 cans daily—approved for Newark and State of New Jersey. Write for full particulars. Box number 322, care this publication. 8-M-3

BUSINESS FOR SALE

BARGAIN — Modern short time milk plant. Refrigerated trucks, paper containers. 60 miles to New York, 45 miles to Philadelphia. Reply Box 321, care of this publication. 8-M-2

FOR SALE — Combination market and ice cream plant and all necessary equipment. Excellent location in the South. Reply Box 401, care this publication. 10-M

OWNER SAYS SELL — Dairy and Dairy Bar, Ice Cream, wholesale and retail. Real estate, 3 trucks. Will sell separate, long lease. Located in the thumb of Michigan. Earl Long, broker, Port Austin, Mich., Phone 14.

BUSINESS OPPORTUNITY

FOR SALE — Long established creamery handling, butter, ice cream, bottled milk and cottage cheese. Manufacture approximately 300,000 lbs. butter, 40,000 gallons of ice cream annually, also 600 gallons of fluid milk daily. Approximately $50,000 worth of new equipment added in the last two years. This plant located in the Rocky Mountain area in excellent territory. Reason for selling, present owners subject to military service. Willing to sell at a reasonable price to accomplish liquidation. Building can be leased or purchased at a reasonable figure. Reply Box 410, care this publication. 10-M

WANTED TO BUY

WANTED — Have you any copies of the December 1948 issue of AMERICAN MILK REVIEW. If so, please reply to Box 1000, care this publication. Suitable payment will be made.

POSITION WANTED

POSITION WANTED for a Hungarian displaced person recently arrived in this country. His name is Edward Hanzevacky, age 36, married, two children, with two Hungarian degrees in dairy industry and bacteriology; practical experience ranging from can-washer to great plant supervisor; specialized in buttermaking. He won second prize in the world championship held in Brussels, Belgium, 1936. He has been active in the dairy industry since 1931. In 1936 through an explosion of a motor in a dairy plant he lost his right hand. In spite of this fact he was able to continue his profession without any difficulties. He speaks English. Address: Edward Hanzevacky, P. O. Box 50, Richmond, Virginia. 10-M-B

POSITION WANTED — As factory representative, any Eastern territory by a middle aged man retired from the milk business, have a beautiful building of 4,000 ft. located in a suburb of New York City that could be used if needed. Reply Box 404, care this publication. 10-M

POSITION WANTED — As creamery foreman. 20 years experience. Can make sour cream, Cheddar cheese, cottage cheese and other by products. Test and Standardize. Would consider a utility job in a large plant. Steady worker, no bad habits. W. C. Libby, RFD 2 Norfolk, New York. 10-M

BUILDING FOR SALE

Building for sale or Stores and Lofts for rent in the heart of New York City. Building is supplied with zero brine refrigeration, high pressure steam, freight elevator, loading platforms, connected with Bronx Refrigerating Co. railroad siding and overhead beef conveyor system. Stores being vacated by wholesale butter, egg, and cheese distributor. Lofts have tiled walls and floors now occupied as a sour cream pasteurizing and bottling plant. Present equipment suitable for a small ice cream plant. Possession about January 1951. Inquire A. J. Dubin, 516 Westchester Ave., Bronx, N. Y. MElrose 5-7020. 9-M-3

HELP WANTED

WANTED — Milk Plant Manager. Experienced in field work and familiar with New York City Health regulations. Plant is located in central New York State. Reply Box 403, care this publication. 10-M

BUSINESS WANTED

WANTED — Reliable young man interested in buying partnership or outright small milk processing plant in New York or New Jersey. Reply Box 402, care this publication. 10-M

THERMOMETER REPAIR

Save time and money. Use our "Custombuilt" repair service. All makes of instruments rebuilt like new. Fine workmanship, fair prices and prompt service. Satisfaction guaranteed or money refunded. Write Fr. Fleischhauer & Son, 8936 187 Place, Hollis 7, New York City. 8-M

We repair Mecurial Indicating Thermometers, dial thermometers and recording thermometers of all makes. Instruments are reconditioned like new. Satisfaction guaranteed. For economical savings, ship your thermometers to Nurnberg Thermometer Company, 124 Livingston Street, Brooklyn, New York. 8-M-tf

MISCELLANEOUS

FOR SALE — 50 gross, more or less 56MM round quart milk bottles, some plain. Cuba City Creamery, Cuba City, Wisconsin. 10-M-2

FOR SALE—Grape-ade base for making dairy type grape-ade. Nothing to add but water. Mixes one to five. Bradway Chocolate, New Castle, Indiana. 8-M-tf

FOR SALE — Non Settling Chocolate Syrup and Powder for making chocolate milk. Ask your dairy supply jobber or write us direct. The Bradway Chocolate Company, New Castle, Indiana. 8-M-tf

FOR SALE — Dairy Orange-ade base made from fresh oranges. Ready to use, add nothing but water. $1.35 per No. 10 tin. The Bradway Chocolate Company, New Castle, Indiana. 8-M-tf

FOR SALE — Truck lettering and trademark decals, made for your truck and store advertising. Easy to apply; uniform, distinctive, economical for small or large needs. Write for catalog Mathews Company, 827 South Harvey, Oak Park, Illinois. 8-M-2

MILK, CHEESE FOR SALE

FOR SALE—Skim milk available in tank lots or can be manufactured into cheese on premises. Plant in New York State. Reply Box 500, care this publication. 8-M-tf

WANTED TO BUY

WANTED—Whole Milk or skim milk for cheese purposes, tank pick-up, any reasonable quantity, preferably in New York State. Write Box 400, care this publication. 8-M-tf

●

ARCHITECTS ENTER DAIRY FIELD

Harry B. Lindberg, formerly architect for Borden's Farm Products Division of the Borden Company, has become associated with the architectual firm of Degenhardt and Miller. He became a partner on October 1.

The firm of Degenhardt and Miller, architects and engineers, was formed in July, 1949. Mr. Miller had previously been a partner in Kolb and Miller but with the death of Mr. Kolb the partnership was dissolved. The new firm will continue the practice of the Kolb and Miller firm and extend it into the dairy field.

Our booth at the show is 455. We're looking forward to seeing you there.

All three men have had extensive experience in the field of industrial architecture with Mr. Degenhardt and Mr. Miller bringing a total of 26 years of experience in the dairy industry to the firm. Mr. Degenhardt, who conducts a column entitled Buildings and Budgets in the "American Milk Review," was formerly associated with Borden's Farm Products Division and Sheffield Farms.

In addition to their work in the field of dairy plant design an engineering the firm will do work on general industrial plants and engineering problems. Their offices are in New York.

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SALES SCHOOL

(Continued from Page 60)

company. These are Homogenized Vitamin D, Golden Guernsey, Pasteurized, and Chocolate milks, Buttermilk, Whole Lactic milk, Single cream, Whipping cream, Half-and-Half, Cottage cheese, Ice Cream, and Fancy Ices. Novelties are Fudgesickles, Refreshos, and Twin Popsickles.

Through practical answers salesmen learn selling methods of the company. Its success is evidence of their worth. All sales are made from high standards. "Our company doesn't want them in any other way," Mr. Kilgore insists.

Motion pictures are shown in the school, some with sound, depicting methods of production, sales boosters, and problems with answers. Prize contests keep salesmen on their toes.

Many salesmen like to talk at school sessions, and these are encouraged. Some develop into fine speakers. If naturally shy, eventually they become self-confident. Speaking helps make good salesmen, supervisors say.

Mr. Kilgore says results from the salesmen's school have been excellent. "It sells the company to the men. It shows them the products they sell. It develops them into self-confident, self-assured, aggressive go-getters without offensive characteristics. Best of all, it maintains a loyal, interested sales organization inspired by the feeling that the company is doing its share to help employees.

"All these," Mr. Kilgore emphasizes, "are worth striving for."

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